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## PERSONAL.

Mr. J. E. Knapp has been elected President of the Columbus & Hocking Coal & Iron Co.

Mr. Joseph B. Burns has been appointed Superintendent of Water-Works of Perth Amboy, N. J.

Mr. J. A. Sheedy, Master of Bridges and Buildings, of the Grand Trunk Ry. System, has resigned his position.

Mr. William A. Cattell, M. Am. Soc. C. E., consulting engineer, has opened an office at 192 Broadway, New York city.

Mr. Hubert A. Stevens, of Chicago, has been appointed City Engineer of Joliet, Ill., to succeed Mr. George W. Brown.

Mr. Charles Fitzgerald has been appointed General Superintendent of the Consolidated Traction Co., of Pittsburg, Pa.

Mr. Charles S. Hill, C. E., of the editorial staff of Engineering News, was married on May 24 to Miss Amanda Seymour, of Long Branch, N. J.

Mr. William T. Hunt, of Paterson, N. J., has been elected President of the New Jersey State Sewage Commission, with offices in the Fuller Building, Jersey City.

Mr. Pierre O. Keilholtz, Assoc. M. Am. Inst. E. E., Chief Engineer of the United Railways & Electric Co., has been appointed General Manager of the United Electric Light & Power Co., of Baltimore, Md.

Mr. John W. Hill, M. Am. Soc. C. E., consulting engineer, of Cincinnati, O., has been retained by the Dubuque Water Co. to examine its property and to estimate the value of the plant, for transfer to the city of Dubuque, Ia.

Mr. A. C. Barbeau, Secretary of the United Exporters' and Traders' Association of America, of 30 Broad St., New York city, left on the "Campania," on May 20, for an extended trip through Europe in the interest of the Association.

Mr. H. E. Van Housen, formerly Superintendent of the Idaho division of the Oregon Short Line, has been appointed Assistant Superintendent of the Wyoming division of the Union Pacific R. R., to succeed Mr. John Hay, who is transferred to Laramie.

Prof. F. L. O. Wadsworth, late of the Yerkes Observatory of Chicago, has been appointed by the Board of Managers of the Western Pennsylvania University as Director of the Allegheny Observatory, to succeed Prof. J. E. Kesler, who recently went to Lick Observatory.

Dr. N. Wiley Thomas has been appointed Chief Inspector of Meters of Philadelphia, Pa. He is at present Professor of Chemistry in Girard College, Philadelphia, and is a member of the American Chemical Society, the Chemical Society of Paris, the Franklin Institute and other scientific organizations.

Mr. H. F. Dunham has removed his office from 2 Wall St. to the St. Paul Building, in New York city. In addition to appointments previously mentioned in these columns, he has recently been made Engineer and Manager of the Water-Works of Circleville and Kent, Ohio, and of Dover, N. J.

Mr. Alexander E. Orr, formerly President of the Rapid Transit Commission of New York city, has been re-elected a member of the Commission, his term of office having expired upon his resignation as President of the Chamber of Commerce. He has also been re-elected as President of the Commission.

Mr. William D. Buckner, Assistant Chief Engineer of the Guayaquil & Quito Ry., Ecuador, has come to New York city for the purpose of engaging additional engineers. He will return to Guayaquil, Ecuador, in June, and take with him a construction outfit to build the railway to Quito. His address while in New York city will be at 49 West 32d St.

Prof. Robert H. Thurston, M. Am. Soc. C. E., Director and Dean of Sibley College and Professor of Mechanical Engineering in Cornell University, has been elected an Honorary Member of the Royal Institution of Great Britain, at the centenary of that body. Other American Honorary Members elected at the same time were: S. P. Langley and W. L. Wilson, of Washington; Prof. A. A. Michelson, of Chicago; Prof. J. S. Ames, of Johns Hopkins University; Prof. G. F. Barker, of the University of Pennsylvania, and Prof. Carl Barus, of Brown University.

## OBITUARY.

Mr. John G. Mann, Chief Engineer of the Mobile & Ohio R. R., Mobile, Ala., died suddenly last week while traveling.

Mr. James G. Harris, formerly Treasurer of the Union Pacific R. R., died at Cambridgeport, Mass., on May 20, aged 55 years.

Mr. John M. Hutchinson died at his home in Philadelphia, Pa., on May 23, at the age of 80 years. He was one of the original promoters of the Delaware, Lehigh, Schuylkill & Susquehanna R. R., which afterward became the Lehigh Valley, and at the time of his death was President of the Pittsburg, Youngstown & Ashtabula R. R., and Director in the Pittsburg, Fort Wayne & Chicago Ry. Co. and the Texas Pacific Ry. Co.

Mr. Robert Gillham, M. Am. Soc. C. E., Chief Engineer and General Manager Kansas City, Pittsburg & Gulf Railway, died suddenly of pneumonia on May 19, at his home in Kansas City. Mr. Gillham was born in New York city, Sept. 25, 1854, and in 1874-78 he attended the Classical and Mathematical Institute, of Hackensack, N. J. In 1878 he went to Kansas City with his parents, and soon after his arrival there became identified with the public improvements of that place, and in 1881 he read a series of papers before the local Academy of Sciences, advocating a plan for improved sewerage and cable railways. By his personal efforts and untiring zeal he enlisted friends and money in this railway scheme and a system was built under his engineering charge and it was very profitable. Having secured the confidence of investors, he now became an enthusiastic promoter of street railways, as well as an engineer, and he designed and built the Kansas City Elevated line, the Tenth Street line and lines in Denver, Omaha, Cleveland and New York. He also invented several appliances for street railways that netted him considerable money. He later became identified with the Kansas City, Pittsburg & Gulf Railway, and under him as Chief Engineer the Sabine Pass ship canal was constructed. At the time of his death he still held office in the above road, was a director in the Missouri, Kansas & Texas Trust Co., principal owner and President of the Armourdale Foundry, a member of the Kansas City Park Board, and he was until recently Chief Engineer and General Manager of the Omaha, Kansas City & Eastern Ry. Co. In 1892 he married Miss Minnie Marty, of Kansas City, and his widow and three children survive him. Mr. Gillham became a Member of the American Society of Civil Engineers on June 2, 1886, and in 1893 he presented to the International Engineering Congress of the Columbian Exposition a paper on "Transmission of Power in Operating Cable Railways." He also contributed several useful papers to the technical press. On Dec. 7, 1897, he was made a Member of the Institution of Civil Engineers, of England.

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## ENGINEERING SOCIETIES.

### COMING TECHNICAL MEETINGS.

NEW YORK ELECTRICAL EXHIBITION.
May 8-June 3. Madison Square Garden, New York city. Marcus Nathan, Manager, Madison Square Garden, New York city.
CIVIL ENGINEERS' CLUB OF CLEVELAND.
May 30. Secy., Wm. H. Searles, Case Library Bldg., Cleveland.
AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS
May 31. Secy., Ralph W. Pope, 26 Cortlandt St., New York city.
TECHNICAL SOCIETY OF THE PACIFIC COAST.
June 2. Secy., O. Von Geldern, 819 Market St., San Francisco, Cal.
BROOKLYN INSTITUTE OF ARTS AND SCIENCES.
June 2. Secy., Henry I. Weed, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
THE ENGINEERS' CLUB OF PHILADELPHIA.
June 4. Secy., L. F. Rondinella, 1122 Girard St., Philadelphia, Pa.
ENGINEERING SOCIETY OF WESTERN NEW YORK.
June 5. Secy., H. J. March, Library Bldg., Buffalo, N. Y.
FRANKLIN INSTITUTE.
June 6. "The Systematic Application of the Microscope to the Detection of Food Adulterations." Discussion. Secy., Wm. H. Wahl, 15 South 7th St., Philadelphia, Pa.
ENGINEERS' CLUB OF TORONTO.
June 6. Secy., Willis Chipman, Toronto, Ont.
AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 7. "On the Theory of Concrete," George W. Rafter. Secy., C. W. Hunt, 220 W. 57th St., New York city.
WESTERN SOCIETY OF ENGINEERS.
June 7. Secy., N. L. Litten, Monadnock Block, Chicago, Ill.
FOUNDRYMEN'S ASSOCIATION (Philadelphia).
June 7. Secy., Howard Evans, Pier 45, N. Delaware Ave., Philadelphia, Pa.
ENGINEERING ASSOCIATION OF THE SOUTH.
June 8. Secy., H. M. Jones, 1000 Broad St., Nashville, Tenn.
ENGINEERS' CLUB OF ST. LOUIS.
June 9. Secy., E. R. Fish, 2401 N. Spring Ave., St. Louis, Mo.
WISCONSIN STATE CHEMICAL ASSOCIATION.
June 9. Secy., I. Ladoff, 154 Knapp St., Milwaukee, Wis.
ST. LOUIS RAILWAY CLUB.
June 9. Secy., H. H. Roberts, 511 Commercial Bldg., St. Louis, Mo.
MONTANA SOCIETY OF ENGINEERS.
June 10. Butte, Mont. Secy., A. S. Hovey, National Bank Bldg., Helena, Mont.
ENGINEERS' CLUB OF KANSAS CITY.
June 12. Secy., F. W. Tuttle, Baird Bldg., Kansas City, Mo.
THE LOUISIANA ENGINEERING SOCIETY.
June 12. Secy., J. F. Coleman, 712 Union St., New Orleans, La.
DENVER SOCIETY OF CIVIL ENGINEERS.
June 12. Secy., W. B. Lawson, 36 Jacobson Bldg., Denver, Colo.
AMERICAN INSTITUTE OF ARCHITECTS (New York Chapter).
June 14. Secy., Chas. I. Berg, 10 West 23d St., New York city.
THE WESTERN GAS ASSOCIATION.
June 14-16. Annual meeting, Milwaukee, Wis. Secy., Jas. W. Dunbar, New Albany, Ind.
AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION and the MASTER CAR BUILDERS' ASSOCIATION.
June 14-23. Annual meeting, Old Point Comfort, Va. Secy., Jno. W. Cloud, 774 Rookery, Chicago, Ill.
ENGINEERS' CLUB OF CINCINNATI.
June 15. Secy., J. F. Wilson, P. O. Box 333, Cincinnati, O.
NEW YORK RAILROAD CLUB.
June 15. Secy., W. W. Wheatley, 168 Montague St., Brooklyn, N. Y.
ROCHESTER ENGINEERING SOCIETY.
June 16. Secy., John F. Skinner, Reynolds Library Bldg., Rochester, N. Y.
THE DETROIT ENGINEERING SOCIETY.
June 16. Secy., Henry Goldmark, Wayne Co. Savings Bank Bldg., Detroit, Mich.
ENGINEERS' CLUB OF COLUMBUS.
June 17. Secy., H. M. Gates, 12½ North High St., Columbus, O.
ENGINEERS' CLUB OF MINNEAPOLIS.
June 19. Secy., H. E. Smith, 1620 S. E. 14th St., Minneapolis, Minn.
TECHNICAL CLUB OF OMAHA.
June 19. Secy., J. Harry Lawrie, Omaha, Neb.
ENGINEERS' AND ARCHITECTS' CLUB OF LOUISVILLE.
June 19. Secy., Marshall Morris, 16 Norton Bldg., Louisville, Ky.
ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA
June 20. Secy., R. A. Fessenden, 410 Penn Ave., Pittsburg, Pa.
WESTERN FOUNDRYMEN'S ASSOCIATION.
June 21. Secy., B. M. Gardner, 1522 Monadnock Block, Chicago, Ill.
BOSTON SOCIETY OF CIVIL ENGINEERS.
June 21. Secy., S. E. Tinkham, City Hall, Boston, Mass.

THE ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—A regular meeting of this society was held at the Society's House, Pittsburg, Pa., on May 16. Mr. A. P. Kirtland presented a paper on "Pittsburg, With Its Black Diamonds."

CIVIL ENGINEERS' CLUB OF COLUMBUS.—At the regular meeting of this club held May 20, Mr. F. Herbert Snow, Assoc. M. Am. Soc. C. E., read a paper, entitled "The Relation of Manufactural Effluents to the Sewerage Problem," which is abstracted elsewhere in this issue.

COMMERCIAL CLUB OF CHICAGO.—At a meeting of this club held at the Auditorium Hotel, on May 13, Mr. Nikola Tesla presented an interesting lecture on "The Era of the Atmosphere." The lecture was illustrated by working models, and dealt mostly with the studies and experiments which Mr. Tesla has been conducting in the transmission of electric energy without wires.

WESTERN SOCIETY OF ENGINEERS.—At the meeting on May 17, a paper on "Steel and Wooden Tanks," by Mr. Theodore W. Snow, was read by the secretary, and brought out considerable discussion as to the relative merits of such tanks, with some general remarks as to the use of concrete for such purposes. A specimen of steel tank plating was exhibited, which had been badly pitted by the action of the water.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—This society has appointed a committee to endeavor to secure permission from the trustees of Trinity Church, New York city, to erect a monument or a tablet to mark the resting place of the body of Robert Fulton, the engineer and builder of the first steamboat. At present his remains are in the Livingstone vault in Trinity Churchyard, where they have been since his death on Feb. 24, 1815.

THE STATE RAILWAY AND ELECTRICAL ASSOCIATION OF VIRGINIA.—The first annual meeting of this association was held at the Jefferson Hotel, Richmond, Va., on May 16. Committee reports were presented, after which papers were read by Mr. R. D. Apperson, on "Track Grounding;" Mr. H. P. Woodson, on "How to Increase the Revenue of Electric Light Stations;" Mr. E. R. Williams, "Park Amusements;" and Mr. J. R. Curtis, "The Use of the Wattmeter on Electric Cars to Check the Unnecessary Use of Electric Current."

WESTERN RAILWAY CLUB.—The annual meeting was held at the Auditorium Hotel, May 16. The secretary presented his report, showing very satisfactory results for the year, the membership having increased considerably, and the club now having a cash balance of about $1,875.

A paper by Mr. C. H. Quereau (D. & R. G. R. R.) on "Hot Main Pins" was read, and brought out some interesting discussion as to methods of fitting brasses to the pins.

The election of officers resulted as follows: Pres., H. G. Hetzler (Supt. of Freight Terminals, C., B. & Q. R. R.); Vice-Presidents, A. E. Manchester (Asst. Supt. of Motive Power, C., M. & St. P. Ry.), and Prof. Wm. F. M. Goss (Purdue University); Treas., Peter H. Peck (Master Mechanic, C. & W. I. R. R.); Directors (two new members of the board), R. D. Smith (Div. M. M., C., B. & Q. R. R.), and B. Haskell (Supt. Motive Power, C. & W. M. Ry.)

THE ENGINEERS' CLUB OF PHILADELPHIA.—At the regular meeting of this club, held on May 6, Mr. Harry K. Myers presented an illustrated paper, entitled "Modern Mine Haulage Practice." The paper was confined to a description of methods applied in general to the coal-mines of this country. An estimate of the track laid during the past year, based on a 6-ft. seam of coal, would show that in the production of 200,000,000 tons, it required 2,000 miles of track on headings and 5,000 miles in rooms, which will give some idea of the importance of the problem of economical mine haulage. At the present time a large proportion of this work is done by mules, with an average life of four years. All the minerals produced during the past year in this country that were brought out by mules had an average haul of one mile per ton, at a cost of 15 cts. After touching upon the old method of rope-haulage, the balance of the paper was devoted to a description of locomotives using steam and compressed air (simple and compound cylinders) and electricity. To compare a mule and a locomotive for mine haulage, the author has calculated that the former as well as the latter can produce a maximum tractive effort of 1-5, and an aver- of 1-7 of its weight.

**ENGINEERS' CLUB OF TORONTO.**—This club is the outcome of a movement among the civil engineers, architects and surveyors resident in the city of Toronto to organize an engineers' club similar to the engineering societies in Detroit, Cleveland, St. Paul, Denver and many other American cities. A meeting was held at the Rossin House, Toronto, on May 5, at which an organization was effected, and the following officers were elected for the ensuing year: Pres., Kivas Tully; Vice-Pres., C. J. Crowley; Secy., Willis Chipman; Treas., T. B. Speight; Directors, C. H. Rust, E. B. Temple and A. L. Hertberg.

Regular meetings will be held on the first Tuesday in each month, except the months of July and August, and the annual meeting will be held on the first Tuesday in February.

All classes of engineers, civil, mechanical, sanitary, hydraulic, electrical, mining and military, professors in engineering and architecture, architects and land surveyors are eligible for membership. The club starts with about 40 members. It is proposed to arrange for a downtown club room next year.

It is not the intention to permit the club to usurp the functions of any of the existing professional or technical societies, the principal object being of a social character.

Willis Chipman, Secy.

**ENGINEERS' CLUB OF ST. LOUIS.**—A meeting of this club was held on May 3. Mr. Julius Pitzman addressed the club in regard to subscriptions to the St. Louis World's Fair Fund, as agent of the Finance Committee.

Mr. John A. Laird described the hydraulic system that will be used for moving the gate valves at the St. Louis pumping station. When the station is completed, there will be eight 36-in. and four 30-in. valves, each of which will be moved by a piston worked by hydraulic pressure. Oil is used as the medium for transmitting the pressure, and it is circulated by a small direct acting steam pump. In order to save space and piping, it was decided to adopt a one-pipe system, in which one pipe acts for both pressure and exhaust. There are about 600 ft. of ¾-in. pipe in the system, and the pressure required to circulate the oil through the entire length varies with 25 to 50 lbs. per sq. in., depending upon the temperature. It sometimes takes 100 lbs. pressure to start a valve, and after being started 30 to 40 lbs. to lift it. The valves require no pressure to open them; but 30 lbs. is put on to seat them. It is impossible to drop a valve, as the friction of the oil in the ¾-in. pipe will only let it settle down slowly. No governor is used on the pump.

The secretary read an abstract of a paper by Messrs. John F. Wixford and S. B. Russell on "Chemical Tests of Cement."

Professor Niper made a few remarks on "Gravitation of Cosmical Masses of Gas."

J. H. Kinealy, Secy. pro tem.

**AMERICAN SOCIETY OF CIVIL ENGINEERS.**—As already announced in this column, the 31st annual meeting of this society will be held at Cape May, N. J., June 27-30. The papers and subjects for discussion, as announced by the Secretary, Mr. Chas. W. Hunt, have all appeared in the society "Proceedings" since Jan. 1, 1899, and are as follows:

"The Accuracy and Durability of Water Meters," John W. Hill; "The Approaches and Transportation Facilities of the Paris Exposition of 1900," E. L. Corthell; "Street Grades and Cross Sections in Asphalt and Cement," Robert P. Woods; "General Criterion for Position of Loads Causing Maximum Stress in any Member of a Bridge Truss," L. M. Hoskins; "Dry Docks—Stone vs. Wood," discussion; "Comparative Tests of Bituminous Steam Coals," John W. Hill; "The Artificial Preservation of Railroad Ties by the Use of Zinc Chloride," Walter W. Curtis; "On the Theory of Concrete," George W. Rafter.

The following subjects have been selected for informal discussion: (1) Should the use of the Method of Wheel-Concentrations be discontinued in determining the Stresses in Railroad Bridges? (2) In view of present knowledge of the Effect of Repeated Applications of Load; should Fatigue Formulas be used in Bridge Design? (3) (a) Should Stream Contamination by the Sewage of Cities be absolutely prohibited by law? (b) Should the Purification of the Sewage of Cities be compulsory; and is this feasible for Large Cities? (c) Is Filtration the coming solution of the Pure-Water Question for Cities? (4) What is the Proper Friction Coefficient for use in the design of Riveted Steel Pipe? (5) What are the economic conditions under which Electricity may be profitably substituted for Steam in the operation of Branch Railroad Lines, and what are the engineering requirements to be considered in such substitution? (6) What is the present development of the so-called Telferage System for moving either Freight or Passengers? What are the conditions under which that System is preferable to movement by Rail, and what is its adaptability to still further application in competition with Rail Lines?

A special train will leave Jersey City, on Monday, June 26, 1899, at an early hour in the afternoon over the Pennsilvania R. R. to Camden, and thence to Cape May, arriving in time for dinner.

Transportation between Pittsburg and Philadelphia, and between Washington and Philadelphia, will be furnished by the Pennsylvania R. R.

On July 1, 1899, at 8 a. m., a special train provided by the Philadelphia & Reading Ry. will leave Cape May for Philadelphia, where various points of interest will be visited and lunch served. The New York party will return on a special train furnished by the Philadelphia & Reading Ry.

Transportation on the above trains will be free to the membership of the society and the members of their immediate families, and must be secured by application to the secretary.

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## NEW PUBLICATIONS.

**NEW STATION AT OMAHA; BURLINGTON ROUTE.**—Issued by the Chicago, Burlington & Quincy R. R. P. S. Eustis, Gen. Pass. Agt., Chicago. Paper; 7 × 4¾ ins.; pp. 16; illustrated.

This is a really beautiful little pamphlet, with excellent half-tone engravings printed on surfaced paper. The station was described in our issue of May 4, 1899.

**HOW THE "GREYHOUNDS" OF THE BURLINGTON BEAT THE RISING MORN.**—Issued by the Passenger Department of the Chicago, Burlington & Quincy R. R., Chicago. Paper; 5¼ × 7½ ins.; pp. 20; illustrated.

This artistic pamphlet is devoted to a popular description of a run with the "Fast Mail" of the Burlington Route, and is illustrated by marginal sketches. On Feb. 17, this train made the trip of 500 miles from Chicago to Council Bluffs in 554 minutes, or 524 minutes running time, the average speed being but little under 60 miles per hour. The complete schedule of this run is given.

**A SUGGESTION FOR A PURE AND UNPOLLUTED WATER SUPPLY FOR PHILADELPHIA.**—By Emile Geyelin. Paper; 8 × 6 ins.; pp. 10; illustrated. Philadelphia. Address the author at 4227 Chestnut St.

The author proposes that instead of filtering the polluted Schuylkill or Delaware water, naturally pure water should be secured from impounding reservoirs on the Mullica River, in New Jersey. The drainage area of the river, he says, is about 360 sq. miles, which could be supplemented by other New Jersey drainage areas if necessary. An open canal is proposed to bring the water from the reservoir to a point on the Delaware opposite Philadelphia.

**STATE BOARD OF HEALTH OF CONNECTICUT.**—Report for 1897-8. Prof. C. A. Lindsley, M. D., New Haven, Secretary. Cloth; 6 × 9 ins.; pp. 318 and Vital Statistics 197; illustrated.

Aside from much interesting matter regarding various other phases of the health work of the state, this volume contains sections by the Chemist of the Board, Prof. Herbert E. Smith, M. D., on the "Investigations of Rivers Pollution and Water Supplies," and on the "Examination of Public School Wells." There are some analyses of sewage at Meriden, Conn., and effluent from the filter beds there, and also of water before and after mechanical filtration at Greenwich, Conn. Many of the public school wells showed signs of gross pollution.

**DATA OF STREAM FLOW IN RELATION TO FORESTS.**—By Geo. W. Rafter. Lecture Before the Engineering Classes of Cornell University, April 14, 1899. Reprint from the Transactions of the Association of Civil Engineers of Cornell University. Vol VII., 1899. Paper; 6 × 9 ins.; pp. 50; tables. Address the author, at Rochester, N. Y.

This is a comprehensive review of the subject named in the title, with numerous references to more extended sources of information. The author believes more data is necessary before final conclusions can be reached, but "as a tentative proposition, he has no doubt that, other conditions remaining the same, forest areas yield more water from a given rainfall than do similar deforested areas."

**TRANSACTIONS OF THE ENGINEERING SOCIETY OF THE SCHOOL OF PRACTICAL SCIENCE. TORONTO, 1898-9.**—Published by the School. Paper; 5¾ × 8¾ ins.; pp. 216; illustrated. 50 cts.

This is the full set of papers presented at the society's regular meetings, and constitutes volume 12 of its transactions. The following papers are given in full: "The Mechanical Process of Manufacturing Wood Pulp," "Modern Systems of Interior Wiring," "Electrolysis," "Construction of the Hamilton Cataract Power Company's Plant at DeCew Falls," "Rat Portage Water-Works," "Silica Portland Cement," "Pavements," "Forestry," "Land Drainage in Its Sanitary Relations," "Railroad Location in the Crow's Nest Pass Railway," "Location and Construction of Crow's Nest Pass Railway," "Junker's Gas Calorimeter," "Notes from an Engineer's Pocket Book," "Some Adventures on the Abitibi," "The Conjunction of the Nineteenth and Twentieth Centuries from an Engineering Standpoint," "Hints to Prospectors," "The Value of Undeveloped Mineral Claims," "The High Pressure Steam Boiler," "Neely's Formula for the Strength of Wooden Beams."

## TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3½ x 6 ins., and 9 x 12 ins.)

**CIRCULAR LETTERS TO ALL AGENTS.**—The Hallwood Cash Register Co., Columbus, O. Pamph.; 6 × 9 ins.

This is a collection of circular letters sent by the concern mentioned to its agents.

**PATENT CHIMNEY TOP.**—The Excelsior Fire Clay Co., Lisbon, O. Circular.

This circular describes a chimney top designed to prevent the wind blowing soot and smoke down the chimney.

**"COOK" PATENT WATER-TUBE BOILER.**—McNeil Boiler Works, Akron, O. Circular.

This is a descriptive circular in which the construction of a vertical tube water-tube boiler is briefly explained.

**TRUCKS.**—The Kilbourne & Jacobs Mfg. Co., Cleveland, O. Pamph.; 4 × 6 ins.; pp. 128; illustrated.

This pamphlet illustrates and describes a large number of styles of two and four-wheel trucks, including baggage barrows, depot express wagons and push-carts.

**STEEL ORE AND MINE CARS.**—The Kilbourne & Jacobs Mfg. Co., Columbus, O. Pamph.; 6¼ × 9 ins.; pp. 48; illustrated.

This pamphlet calls attention to the variety of steel mine cars and contractors' dump cars manufactured by this concern.

**PORTABLE DRILLING MACHINES.**—The Star Drilling Machine Co., Akron, O. Pamph.; 6 × 9 ins.; pp. 88; illustrated.

This pamphlet is an illustrated description and price list of portable well-drilling machines and all the accessories necessary for driving wells.

**HOISTING ENGINES.**—The Griffith & Wedge Co., Zanesville, O. Pamph.; 8¼ × 5¾ ins.; pp. 10; illustrated.

This pamphlet illustrates and gives dimension tables of the various types and sizes of steam hoisting engines for mines, inclines and tailrope systems manufactured by this concern.

**LAMP BURNERS, LANTERNS, ETC.**—Wheeling Stamping Co., Wheeling, W. Va. Pamph.; 5½ × 7¾ ins.; pp. 28; illustrated.

This pamphlet is published to call attention to the styles of lanterns and lamp burners manufactured by this concern.

**THE PAUL SYSTEM OF STEAM HEATING.**—Paul Steam System Co., 38 Pearl St., Boston, Mass. Pamph.; 6½ × 3½ ins.; pp. 20.

This little pamphlet considers in a very brief way the subject of steam heating and mentions the main features of the Paul system.

**DIAPHRAGM SUCTION PUMP.**—The Goulds Mfg. Co., Senaca Falls, N. Y. Paper; 8 × 7 ins.; pp. 1.

This sheet describes a new form of diaphragm suction pump, just put on the market. It has a reversible lever, which can be used at the back of the pump or on either side.

**PAN-AMERICAN EXPRESS.**—New York Central R. R. Geo. R. Daniels, General Passenger Agent, Grand Central Station, New York city. Circular; 4 × 8 ins.

This circular describes a new train which was put in service between New York and Buffalo on May 7, 1899. In addition the other through New York-Buffalo trains are mentioned.

**WIRELESS TELEGRAPHY APPARATUS; TELEGRAPHING AND SIGNALING WITHOUT WIRES.**—U. S. Electrical Supply Co., 141 E. 25th St., New York city. Circulars; 5 × 7¾ ins.

These circulars illustrate and briefly describe the several forms of wireless telegraphing instruments manufactured by this concern.

**PLASTIC RAIL BOND.**—Harold P. Brown, 120 Liberty St., New York city. Circular.

This circular is, to say the least, a novelty. It consists of a flat sheet arranged to fold up successively, each leaf as it folds into place showing one of the operations required in installing the Brown Plastic Rail Bond.

**DIRECT RETURN TUBULAR STEAM BOILER.**—James Beggs & Co., New York city. Pamph.; 12 × 10 ins.; pp. 12; illustrated.

This is a special pamphlet illustrating and briefly describing the "Beggs'" improved horizontal direct return tubular boiler. The various illustrations show the details of construction quite clearly.

**M. C. B. COUPLERS.**—The Railroad Supply Co., Chicago, Ill. Paper; 9 × 6 ins.; pp. 44; illustrated.

This is a well got-up pamphlet illustrating and describing the Hein coupler and its special features and advantages. In this coupler, when the switchman lets the lever drop after unlocking the coupler, the coupler will automatically be set ready to couple again.

**ALTERNATING CURRENT FAN MOTORS; DIRECT CURRENT FAN MOTORS.**—Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Circulars Nos. 225 and 226; 7 × 9 ins.; illustrated.

These circulars illustrate the construction of the types of fan motors manufactured by this concern for the summer season of 1899. The accompanying text explains the good points of each type of fan.

**FAN MOTORS.**—Sprague Electric Co., New York city. Pamph.; 7 × 9¼ ins.; pp. 40; illustrated.

This is number 66 of the series of catalogues issued by this concern. It is an illustrated price list of Lundell fan motors, and pictures in a most attractive manner the types and styles of this well-known fan motor. Other illustrations and accompanying text show the construction of the motor and a few of the many uses to which it can be put.

**THE E. P. S. BATTERY CALCULATOR.**—The Electrical Power Storage Battery Co., Ltd., 4 Great Winchester St., E. C., London, Eng. Card; 6½ × 4 ins.

This is an interesting piece of trade literature, based on the slide rule principle. It consists of an outer and inner card, both provided with figures. The outer card or envelope has openings through which the figures on the inner or sliding card may be read. By proper manipulation the number, kind, size, etc., of storage battery for a given class of work can be obtained.

THE CLAYTON AIR COMPRESSOR.—Clayton Air Compressor Works, 26 Cortlandt St., New York city. Pamph.; 6½ × 9½ ins.; illustrated.

This is a very neat pamphlet in which the various types of Clayton compressors, receivers, vacuum pumps, etc., are shown, and the details of the valves and types of governors used are also given. The illustrations are accompanied by suitable descriptive text and dimension tables.

ASPHALT PAVING.—The Ayers Asphalt Paving Co., Zanesville, O. Paper; 6¾ × 5⅛ ins.; pp. 32; illustrated.

In this pamphlet the advantages of asphalt paving are dwelt upon, and the specifications are given in full for the laying of "Standard" California asphalt, which is used by this company. The Ayers Co., in a table appended, shows that, since 1897, it has laid a total of 186,282 sq. yds. of pavement in nine cities, including New Orleans, Minneapolis, Sandusky, Houston and Zanesville.

MILL, ELEVATOR BRAKE, CAR AND SHOP MOTORS.—Crocker-Wheeler Co., Ampere, N. J. Pamph.; 7½ × 10 ins.; pp. 28; illustrated.

This is Bulletin No. 8 of the Crocker-Wheeler series, and is published to call attention to a new type of motor which, it is claimed, is exceptionally well suited for all work requiring either great momentary turning power, safety from external injury or convenient automatic stopping or starting. The pamphlet affords a very clear idea of the details of construction and operation of the motor.

STEEL DUMPING CAR.—Goodwin Car Co., 96 5th Ave., New York; 115 Dearborn St., Chicago. Paper; 12 × 9¼ ins; oblong; pp. 31; illustrated.

This is a gravity dump car, for both large and small material, delivering the material without movement in the car body. One man can discharge the entire train load while the train is in motion. It is especially adapted for the coal and ore trade, gravel, broken stone, or any material that will escape through an opening 4 × 16 ft. by the gravity of the load alone. This car was illustrated and described in our issue of Nov. 17, 1898.

CONTRACTORS' MACHINERY AND SUPPLIES.—Julian Scholl & Co., 126 Liberty St., New York. Paper; 10¾ × 8 ins.; pp. 51; illustrated.

The index to the machines, tools and supplies here priced and described covers over 200 distinct items, and is in itself interesting as showing the great variety of the appliances demanded by the modern contractor in conducting his work. The items range from compound engines and steam road-rollers to shovels and street-hoes. Nearly every one of these items is well illustrated; its advantages set forth and the price stated.

ENGINEERS' INSTRUMENTS.—C. L. Berger & Sons, successors to Buff & Berger, 9 Province Court, Boston, Mass. Boards; 9 × 6 ins.; pp. 212; illustrated. 60 cts.

This is a useful handbook to those handling engineering instruments; for it describes their manufacture, the form and purposes of the many attachments and the best methods of taking care of them, or of detecting damage or error due to accident. The adjustment of instruments is very fully described; and the manner of making many classes of observations is illustrated by text and tables. The Second Part covers a full catalogue and price list of the instruments made or supplied by this firm.

POLYPHASE TRANSMISSION: THE SYSTEMS AND APPARATUS USED IN POWER TRANSMISSION.—Westinghouse Electric & Mfg. Co., Pittsburg, Pa. Pamphlets; 6 × 9 ins.; pp. 24 and 42; illustrated.

The first of these pamphlets is a revised reprint of a paper by Mr. Chas. F. Scott, chief electrician of the Westinghouse Co., read before the National Electric Light Association on March 1, 1894. It is a clear and interesting discussion of the various losses encountered in alternating current transmission, and the methods of overcoming or reducing these losses.

The second pamphlet is also a reprint of a paper by the same author, read before the American Paper and Pulp Association at its annual meeting held on Feb 16, 1898. This is a brief general review of the apparatus used for power transmission, and is somewhat popular in style.

THE ADIRONDACK MOUNTAINS AND HOW TO REACH THEM; TWO DAYS AT NIAGARA FALLS.—The New York Central & Hudson River R. R. Folded circular, pamph.; 4 × 8¼ ins.; pp. 64; both illustrated.

This is No. 20 of the New York Central "Four-Track Series," published to call attention to the wild and rugged country which is within ten hours' ride of New York city. The folder includes a colored map 23 × 15½ ins., illustrating the geography of the lake and mountain region of New York state, and a very complete list of the principal lakes, ponds, hotels, boarding-houses and camps in the Adirondack Mountains, and their dates of opening and closing.

The second pamphlet illustrates a few of the wonderful views of Niagara Falls and tells how to see the Falls and vicinity in two days.

Copies of both of these pamphlets can be obtained from George H. Daniels, General Passenger Agent, Grand Central Station, New York city.

MILLING, MINING AND GOLD-DREDGING MACHINERY.—The Risdon Iron Works, San Francisco, Cal. Catalogues Nos, 5, 12 and 17; pp. 48, 138 and 48 respectively. Paper; 10¼ × 6¾ ins.; all illustrated.

The first of these three catalogues relates to hydraulic mining machinery, and especially to the Evans hydraulic gravel elevator. This ingenious device is largely used, and at the Golden Feather mine, in Oroville, Cal., it lifts gravel 70 ft. with a head of 380 ft., and pumps 1,000 miners inches of water and all the gravel that 300 inches can possibly pipe to the elevator. The large size elevator has a capacity of 5,000 cu. yds. per day of 24 hours, lifted 40 ft. high under a head of 250 ft. The catalogue describes and illustrates these elevators, and the giants, deflectors, riffles, pipes, etc., used with them; and also gives a series of hydraulic tables valuable to the user of apparatus of this type. Catalogue No. 12 is devoted to describing and pricing all classes of milling machinery, including stamp and roller mills, concentrators, water wheels, ore-feeders, rock-breakers, pumping and hoisting plant, etc. The last catalogue, No. 17, is devoted to the R. H. Postlethwaite gold dredge, which is now handling, in the Yuba and Feather Rivers, 2,000 cu. yds. of material per day at a cost of 3 cts. per cu. yd. The material is extracted by a chain of buckets, from depths up to 45 ft., with a gross capacity of 93 cu. yds. per hour. The dredged material is discharged into a revolving screen, or "grizzly," is washed and then passes to the series of gold-saving tables. It is claimed that it will work from 60 ft. below water level to 20 ft. above, and handle the material at a cost of between 3 and 5 cts. per cu. yd.

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## CONSTRUCTION NEWS.

### CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

| Bids to be opened. | Work. Place. | See Eng. News. |
|---|---|---|
| May 25. | School building plans, Indianapolis, Ind. | May 18 |
| May 25. | Maps and surveys, Pomeroy, O. | May 18 |
| May 25. | Road rollers (3), New York, N. Y. | May 18 |
| May 25. | Grading, etc., Guttenberg, N. J. | May 18 |
| **May 25.** | **Dredging, Mississippi** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 18.** | |
| **May 25.** | **Dredging, Chicago, Ill.** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 18.** | |
| **May 25.** | **Brick storehouse, North Point, Md.** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 18.** | |
| **May 25.** | **Harbor work, Wisconsin** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 18.** | |
| May 25. | Boiler house, etc., Chicago, Ill. | May 4 |
| | Advertised, Eng. News, May 4 and 11. | |
| May 25. | Pipe sewers, Newark, N. J. | May 25 |
| May 25. | School building, Derby, Vt. | May 25 |
| May 25. | Asphalt paving, Newark, N. J. | May 25 |
| May 25. | Brick paving, St. Thomas, Ont. | May 25 |
| May 26. | Gas franchise, 50-yr., Danville, Ill. | May 11 |
| May 26. | Mortar carriages, Washington, D.C. | May 11 |
| **May 26.** | **Colecting garbage, etc., Binghamton, N. Y.** | **May 4** |
| | **Advertised, Eng. News, May 4 to 18.** | |
| May 26. | Water pipe, etc. (4,100 tons), St. Louis | May 18 |
| May 26. | Cement (10,000 bbls.), New York, N. Y. | May 18 |
| May 26. | Bulkhead wall, New York, N. Y. | May 18 |
| May 26. | Sewers, Wahpeton, N. Dak. | May 18 |
| May 26. | School building, McKee's Rocks, Pa. | May 25 |
| May 26. | Boat landing, South Boston, Mass. | May 25 |
| May 26. | Cedar block paving, Detroit, Mich. | May 25 |
| May 26. | Sidewalks, Walkerton, Ont. | May 25 |
| May 27. | Grading and graveling Minnetonka, Minn. | May 18 |
| May 27. | School building, St. Johnsbury, Vt. | May 18 |
| **May 27.** | **Bridge, Washington, D. C.** | **May 4** |
| | **Advertised, Engineering News, May 4.** | |
| **May 27.** | **U. S. building work, San Francisco, Cal.** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 4.** | |
| **May 27.** | **Water pipe, etc., Washington, D. C.** | **Apr. 27** |
| | **Advertised, Engineering News, Apr. 27.** | |
| May 27. | Wharf, Tompkinsville, N. Y. | May 11 |
| | Advertised, Eng. News, May 11 and 18. | |
| May 27. | School building, Auburn, R. I. | May 25 |
| May 27. | Church building, Franklin, Mass. | May 25 |
| May 27. | Paving bonds, Grand Rapids, Mich. | May 25 |
| May 27. | Paving, etc., East Liverpool, O. | May 25 |
| May 29. | Jail building plans, New Orleans, La. | May 11 |
| May 29. | Court house, Medicine Hat, N. W. Ter. | May 11 |
| May 29. | Dredging, San Francisco, Cal. | May 11 |
| May 29. | School building, Toledo, O. | May 11 |
| **May 29.** | **Fire-alarm system, New Orleans, La.** | **May 4** |
| | **Advertised, Eng. News, May 4 to 25.** | |
| **May 29.** | **Movable dam, Louisville, Ky.** | **May 4** |
| **May 29.** | **Pumping engine, Allentown, Pa.** | **May 4** |
| | **Advertised, Eng. News, May 4 to 25.** | |
| May 29. | Court house addition, Salisbury, N. C. | May 18 |
| May 29. | College building, Minneapolis, Minn. | May 18 |
| May 29. | Sewerage system, Carrollton, Mo. | May 18 |
| | Advertised, Engineering News, May 18. | |
| May 29. | Asylum building, Smith's Landing, N. J. | May 25 |
| May 29. | Heating, etc., New York, N. Y. | May 25 |
| May 29. | Steel bridge, Syracuse, N. Y. | May 25 |
| May 29. | Gate house, Pittsburg, Pa. | May 25 |
| May 29. | Bridge, Savannah, Ga. | May 25 |
| May 29. | Electric light bonds, Herkimer, N. Y. | May 25 |
| May 29. | Electric plants, New York, N. Y. | May 25 |
| May 29. | Pipe sewers, Pontiac, Mich. | May 25 |
| | Advertised, Engineering News, May 25. | |
| May 29. | Water pipe, Chicago, Ill. | May 25 |
| May 29. | Cobblestone paving, Petersburg, Pa. | May 25 |
| May 29. | Asphalt paving, New Orleans, La. | May 25 |
| May 29. | Macadam paving, Bowling Green, O. | May 25 |
| May 29. | Paving, etc., Indianapolis, Ind. | May 25 |
| May 29. | Telephones, New York, N. Y. | May 25 |
| May 30. | Passenger elevator, Hamilton, O. | May 18 |
| May 30. | School building, Tekamah, Neb. | May 18 |
| May 30. | Drill hall, Vancouver, B. C. | May 11 |
| May 30. | Steel bridge, Wakarusa, Ind. | May 25 |
| May 30. | Bridge bonds ($35,000), Painesville, O. | May 25 |
| May 31. | Anchors (9), Washington, D. C. | May 11 |
| May 31. | Floating dock, Havana, Cuba | May 11 |
| **May 31.** | **Jetties, St. John's River, Fla.** | **May 4** |
| | **Advertised, Eng. News, May 4 to 25.** | |
| **May 31.** | **Improving water-works, Pendleton, Ore.** | **May 4** |
| | **Advertised, Eng. News, May 4 and 11.** | |
| **May 31.** | **Dams & shore protection, Rock Island, Ill.** | **Apr. 27** |
| | **Advertised, Eng. News, Apr. 27 to May 18.** | |
| **May 31.** | **Plate girder railway bridge, Joliet, Ill.** | **Apr. 13** |
| | **Advertised, Engineering News, Apr. 13.** | |
| **May 31.** | **Dredges (2), St. Louis, Mo.** | **Apr. 20** |
| | **Advertised, Eng. News, Apr. 20 to May 25.** | |
| May 31. | Paving, West Boylston, Mass. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| May 31. | Steel bridge, Dayton, O. | May 18 |
| | Advertised, Engineering News, May 18. | |
| May 31. | Army buildings, Savannah, Ga. | May 18 |
| May 31. | Hospital building, etc., Danville, Ill. | May 18 |
| May 31. | Agricultural station, Sitka, Alaska | May 18 |
| May 31. | Paving bonds, McConnellsville, O. | May 18 |
| May 31. | Electric plant, Williamsport, Md. | May 25 |
| May 31. | Brick sewers, Jersey City, N. J. | May 25 |
| May 31. | Belgian paving, Jersey City, N. J. | May 25 |
| May 31. | Asphalt paving, Columbus, O. | May 25 |
| May 31. | Macadam paving, Galion, O. | May 25 |
| May 31. | Park work, Newark, N. J. | May 25 |
| | Advertised, Engineering News, May 25. | |
| May 31. | Fire engines (4), Chicago, Ill. | May 25 |
| June 1. | Plans for market, Leeds, England | Feb. 16 |
| June 1. | Electric plant, Princeton, Ore. | Apr. 13 |
| June 1. | Water and sewer bonds, Prescott, Ont. | Apr. 27 |
| June 1. | Water pipe, Michigan City, Ind. | May 11 |
| **June 1.** | **Sewers, Honolulu, H. I.** | **May 11** |
| June 1. | Electric lighting, Mechanicsville, Ia. | May 18 |
| June 1. | Sedimentation reservoir, Media, Pa. | May 18 |
| | Advertised, Engineering News, May 18. | |
| June 1. | Steel bridge, Hot Springs, Ark. | May 18 |
| June 1. | Steel bridges (2), Brookings, S. Dak. | May 18 |
| June 1. | Excavation, Bridger, Mont. | May 18 |
| June 1. | Water-Works, Tupper Lake, N. Y. | May 18 |
| | Advertised, Engineering News, May 18. | |
| June 1. | Water-Works, North Braddock, Pa. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 1. | Water pipe and sewers, Brussels, Ont. | May 18 |
| June 1. | Street cleaning, Utica, N. Y. | May 18 |
| June 1. | Electric plant, Wallingford, Conn. | May 18 |
| | Advertised, Engineering News, May 18. | |
| June 1. | Paving, (90,000 yds.), Elizabeth, N. J. | May 18 |
| June 1. | Asphalt paving, Owosso, Mich. | May 18 |
| | Advertised, Engineering News, May 18. | |
| June 1. | Bridges (3), Towanda, Pa. | May 18 |
| June 1. | Building, Altoona, Pa. | May 25 |
| June 1. | Sewers, Stevens Point, Wis. | May 25 |
| June 1. | Opera house, Sharon, Pa. | May 25 |
| June 1. | Church building, Newport News, Va. | May 25 |
| June 1. | Asylum buildings, Bartonville, Ill. | May 25 |
| June 1. | Electric plant, Creighton, Neb. | May 25 |
| June 1. | Canal systems (2), Wormser City, Mont. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 1. | Sewer bonds, Charlottetown, P. E. I. | May 25 |
| June 1. | Repaving, Buffalo, N. Y. | May 25 |
| June 1. | Macadam paving, Paterson, N. J. | May 25 |
| June 1. | Paving, Ann Arbor, Mich. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 1. | Collecting garbage, West Springfield, Mass. | May 25 |
| June 2. | Steel bridge, Wyalusing, Pa. | May 18 |
| June 2. | County road, Bethlehem, Pa. | May 18 |
| **June 2.** | **Paving, Shelby, O.** | **May 11** |
| | **Advertised, Engineering News, May 11.** | |
| June 2. | Paving, Cincinnati, O. | May 11 |
| June 2. | Paving, Troy, N. Y. | May 25 |
| June 2. | Paving, Philadelphia, Pa. | May 25 |
| June 2. | Macadam paving, Passaic, N. J. | May 25 |
| June 2. | Park work, New York, N. Y. | May 25 |
| June 3. | Removing rock, East River, N. Y. | May 4 |
| | Advertised, Eng. News, May 4 to 25. | |
| June 3. | Dredging, Keyport, N. J. | May 4 |
| | Advertised, Eng. News, May 4 to 25. | |
| June 3. | School building, Ellerton, O. | May 18 |
| June 3. | Infirmary building, Little Rock, Ark. | May 18 |
| June 3. | Hospital buildings, Washington, D. C. | May 25 |
| June 3. | Business block, Newport News, Va. | May 25 |
| June 3. | Viaduct, Buffalo, N. Y. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 3. | Underground wires, Washington, D. C. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 4. | Brick sewers, Toledo, O. | May 25 |
| June 5. | Macadamizing, Hasbrouck Heights, N. J. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 5. | Pipe sewer, Hackensack, N. J. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 5. | Market house, San Antonio, Tex. | May 18 |
| June 5. | Street improvements, Bondhill, O. | May 18 |
| June 5. | Macadam roads (15 mls), Crown Point, Ind. | May 18 |
| | Advertised, Engineering News, May 18. | |
| **June 5.** | **Artesian well, Indianola, Miss.** | **May 11** |
| **June 5.** | **Street bonds, Shelby, O.** | **May 11** |
| | **Advertised, Engineering News, May 11.** | |
| June 5. | Excavating reservoir, Clinton, Mass. | Apr. 27 |
| | Advertised, Eng. News, Apr. 27 and May 4. | |
| June 5. | Dormitory building, Phoenix, Ariz. | May 25 |
| June 5. | Bridge, Albuquerque, N. Mex. | May 25 |
| June 5. | Bridge, Corralitos, Cal. | May 25 |
| June 5. | Steel bridge, Paris, Ont. | May 25 |
| June 5. | Steel bridge, Cape May, N. J. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 5. | Sewers, Albany, N. Y. | May 25 |
| June 5. | School building, Brooklyn, N. Y. | May 25 |
| June 5. | Bridge, Newport, Ky. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 5. | Extending pump'g plant, Montgomery, Ala. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 5. | College building, Pullman, Wash. | May 25 |
| June 5. | Brick paving, Albany, N. Y. | May 25 |
| June 5. | Paving, Muncie, Ind. | May 25 |
| June 5. | Asphalt paving, Paterson, N. J. | May 25 |
| June 5. | Grading, Clinton, Ia. | May 25 |
| June 6. | Hospital buildings, Auburn, Cal. | Apr. 27 |
| **June 6.** | **Bridges (5), Cumberland, Md.** | **May 11** |
| June 6. | Drainage for pond, Clinton, Mass. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 6. | Heating plant, Devil's Lake, N. Dak. | May 18 |
| June 6. | Steel bridge, Humboldt, Ia. | May 18 |
| June 6. | Sewer work, St. Louis, Mo. | May 25 |
| June 6. | Hospital plans, Auburn, Cal. | May 25 |
| June 6. | Railway (21 miles), Trenton, Ont. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 6. | Heating plant, Corvallis, Ore. | May 25 |
| June 6. | Bridge, Gibson, Ga. | May 25 |
| June 6. | Pipe sewers, Oberlin, O. | May 25 |
| June 6. | Sewers, etc., Glencoe, Ill. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 6. | Water pipe and castings, Albany, N. Y. | May 25 |
| June 6. | Water bonds, Rocky Mount, N. C. | May 25 |
| June 6. | Lowering water mains Glencoe, Ill. | May 25 |
| | Advertised, Engineering News, May 25. | |
| June 6. | Water-works, Tyler, Minn. | May 25 |
| June 6. | Macadam paving, Mount Vernon, N. Y. | May 25 |
| June 6. | Paving bonds, New Rochelle, N. Y. | May 25 |
| June 6. | Repairing asphalt pvmt, Terre Haute, Ind. | May 25 |
| **June 7.** | **U. S. building, Detroit, Mich.** | **May 11** |
| | **Advertised, Eng. News, May 11 and 18.** | |
| **June 7.** | **Electric plant, London, England** | **May 4** |
| June 7. | Maps and surveys, Mount Gilead, O. | May 25 |
| June 7. | Bridge, Salem, Ore. | May 25 |
| June 7. | Bridge, Painesville, O. | May 25 |
| June 7. | Paving, Buffalo, N. Y. | May 25 |
| June 7. | Macadam paving, Pittsburg, Pa. | May 25 |
| **June 8.** | **Dredging, New Bedford, Mass.** | **May 11** |
| | **Advertised, Eng. News, May 11 to June 1.** | |
| **June 8.** | **Dredging, Rancocas River, N. J.** | **May 11** |
| **June 8.** | **Dredging, Alloway Creek, N. J.** | **May 11** |
| **June 8.** | **Dredging, New Haven, Conn.** | **May 11** |
| | **Advertised, Eng. News, May 11 to June 1.** | |
| **June 8.** | **Removal of wreck, Alloway Creek, N. J.** | **May 11** |
| June 8. | Bridge, Plymouth, Ind. | May 18 |
| June 8. | Bridge, Petaluma, Cal. | May 25 |
| June 8. | Brick paving, Scottdale, Pa. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 8. | Sewerage system, New Brighton, Pa. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 8. | County roads, Rockville, Ind. | May 25 |
| June 9. | Boom and raft work, New Orleans, La. | May 18 |
| June 9. | Dredging, Gulfport, Miss. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 9. | Reservoir work, Clinton, Mass. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 9. | Water-tower, Murphysboro, Ill. | May 18 |
| | Advertised, Engineering News, May 18. | |
| **June 9.** | **Piers, Holland, Mich.** | **May 11** |
| | **Advertised, Eng. News, May 11 to June 1.** | |
| **June 9.** | **Dredging, Bridgeport Conn.** | **May 11** |
| | **Advertised, Eng. News, May 11 to June 1.** | |
| June 9. | Macadam paving, Georgetown, O. | May 25 |

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|---|---|---|
| June 9. | Dredging, Cleveland, O. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 10. | Boiler house, Bremerton, Wash. | May 4 |
| June 10. | Timber dry-dock, Mare Island, Cal. | Apr. 13 |
| June 10. | Government piers, Grand Haven, Mich. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 10. | Steam light vessel, Washington, D. C. | May 18 |
| June 10. | Town hall, Lafayette, O. | May 18 |
| June 10. | Army buildings, Fortress Monroe, Va. | May 25 |
| June 10. | School building, Fairmont, Minn. | May 25 |
| June 10. | School building, Cleveland, O. | May 25 |
| June 10. | Street sweeper, Halifax, N. S., Can. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 12. | Breakwater, Larchmont, N. Y. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 12. | Excavation, Portland, Me. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 12. | Breakwater, Fairport Harbor, O. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 12. | Dredging, Lubec, Me. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 12. | Dredging, Mamaroneck Harbor, N.Y. | May 25 |
| | Advertised, Eng. News, May 25 to June 8. | |
| June 13. | Water pipe, castings, etc., Cincinnati, O. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 13. | Brick paving, Canandaigua, N. Y. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| June 13. | Court house, Brady, Tex. | May 25 |
| June 14. | U. S. building, Newport, Ky. | May 18 |
| | Advertised, Eng. News, May 18 to 25. | |
| June 14. | Government piers, Muskegon, Mich. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 14. | Garbage removal, Hoboken, N. J. | May 11 |
| June 14. | Court house, Williston, N. Dak. | May 25 |
| June 15. | Electric lighting, Petrolia, Ont. | May 11 |
| June 15. | Pump and intake, Michigan City, Ind. | May 11 |
| June 15. | Jail building, Oglethaorpe, Ga. | May 4 |
| June 15. | Dredging, Newport, R. I. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 15. | Dredging, Chicago, Ill. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 15. | Dredging, Galveston, Tex. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 15. | Dredging, Portland, Me. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 15. | Heating, etc., Washington, D. C. | May 18 |
| June 15. | School building, Oglethorpe, Ga. | May 25 |
| June 15. | Electric lighting, Abbeville, S. C. | May 25 |
| June 15. | Electric plant, Arkansas City, Kan. | May 25 |
| June 15. | Sewers, Glenville, O. | May 25 |
| June 15. | Sewer bonds, Nevada City, Cal. | May 25 |
| June 15. | Water-works, Hartford, Mich. | May 25 |
| June 15. | Dredging, Tampa, Fla. | May 25 |
| | Advertised, Eng. News, May 25 to June 8. | |
| June 16. | Steel bridge, Fullerton, Neb. | May 18 |
| June 16. | Steel bridge, Novelty, Wash. | May 25 |
| June 16. | Pig lead, Cleveland, O. | May 25 |
| June 17. | Dump scows (3), Chattanooga, Tenn. | May 18 |
| | Advertised, Eng. News, May 18 to June 8. | |
| June 17. | Masonic hall, Patten, Me. | May 25 |
| June 18. | Electric power, Plaquemine Bayou, La. | May 18 |
| June 19. | Water bonds, Morton, Minn. | May 25 |
| June 19. | Paving, Ashland, O. | May 25 |
| June 20. | Electric lighting, Danville, Ky. | May 18 |
| | Advertised, Eng. News, May 18 to June 1. | |
| June 20. | Viaduct, Norwalk, O. | May 25 |
| June 21. | Rip-rap, Rock Island, Ill. | May 25 |
| | Advertised, Eng. News, May 25 to June 15. | |
| June 22. | Court house, Marietta, Ga. | May 11 |
| June 22. | Breakwater, Calumet Harbor, Ill. | May 25 |
| | Advertised, Eng. News, May 25 to June 15. | |
| June 22. | Dredging, Coxsackie, N. Y. | May 25 |
| | Advertised, Eng. News, May 25 to June 15. | |
| June 24. | Electric plant, Newport, R. I. | May 25 |
| | Advertised, Eng. News, May 25 to June 15. | |
| June 27. | Pumping engines (2), St. Louis, Mo. | May 4 |
| June 28. | Building work, Chemawa, Ore. | May 25 |
| June 30. | Street work, Parabelem, Brazil. | May 4 |
| June 30. | Electric r'y (23 miles), Shanghai, China. | Mar. 2 |
| | Advertised, Eng. News, Nov. 17 to Dec. 8. | |
| July 1. | Revetments, Koweenaw Point, Mich. | May 25 |
| July 3. | Plans for kursaal, Harrogate, England. | May 18 |
| July 3. | Water softening plant, Winnipeg, Man. | May 25 |
| July 5. | Drainage system, New Orleans, La. | May 4 |
| | Advertised, Eng. News, May 4 to June 29. | |
| July 10. | Harbor and docks, Naples, Italy. | May 11 |
| July 25. | Jetty, Portland, Ore. | May 25 |
| | Advertised, Eng. News, May 25 to June 8. | |
| July 25. | Jetties, Portland, Ore. | May 25 |
| | Advertised, Eng. News, May 25 and June 1. | |
| July 25. | Jetty, Portland, Ore. | May 25 |
| | Advertised, Eng. News, May 25 to June 8. | |
| July 30. | Water-works, Milnor, N. Dak. | May 11 |
| July 27. | Municipal building plans, Plumstead, Eng. | May 18 |
| Oct. 1. | Electric street railway, Moscow, Russia. | Mar. 9 |
| No date. | Garbage disposal plant, Savannah, Ga. | May 4 |
| | Advertised, Eng. News, May 4 and 11. | |
| No date. | Water-works, Sanford, N. C. | May 11 |
| No date. | Railroad ties (500,000), Davenport, Ia. | May 18 |
| | Advertised, Engineering News, May 18. | |
| No date. | Court house, Bowling Green, O. | May 25 |
| " | Railway grading (27 mls.), Lexington, Ky. | May 25 |
| | Advertised, Engineering News, May 25. | |

## RAILWAYS.

**ANN ARBOR.**—Reports state that surveys have been completed and that final arrangements are being made for the new terminal to be established for this line at Menominee, Mich. O. D. Richards, Ch. Engr., Toledo, O.

**ARTHABAKCA.**—This company has been chartered to build a line from Tudswell, on the Quebec Central Ry., through Wolf and Arthabakca counties, to Maddington Falls, Que., on the Intercolonial Ry. Louis Lavergne and J. E. Girouard, Arthabaskaville, Que.; P. B. Dumoulin, Quebec, Que.

**CANADA.**—The Central Counties Ry. Co. has been given permission to construct a line from Haw Harbor to South Indian, Ont.——The Russell, Dundas & Grenville Counties Ry. Co. has been granted a charter to construct a line from South Indian to Prescott, with headquarters at Winchester, Ont.——The Erie & Huron Ry. Co. and the Lake Erie & Detroit River Ry. Co. have been given power to consolidate.——The charters of the Lindsay, Bobcaygeon & Pontypool Ry. Co. and of the Cobuorg, Northumberland & Pacific Ry. Co. were revived.

**CENTRAL ONTARIO.**—Bids are asked until June 6 for the construction of an extension of this railway to Bancroft, Ont., a distance of about 21 miles, requiring clearing, fencing, grading, timber and concrete work in bridges etc., as stated in our advertising columns. George Collins, Gen. Supt.; John D. Evans, Ch. Engr., Trenton, Ont.

**CHESAPEAKE & OHIO.**—C. D. Langhorne & Co., Richmond, Va., have been awarded the contract for the grading and for the masonry work on about 700 ft. of bridging over the New River, for an extension of this system from Prince, W. Va., up Piney Creek, for a distance of 13 miles.

**CHICAGO GREAT WESTERN.**—John Williams, James Lahey and others of Dubuque, Ia., have been awarded contracts for grading on this line in Iowa, requiring about 800,000 cu. yds. of earth excavation. The Bracey-Fletcher Co., 1104 Bedford Bldg., Chicago, Ill., holds the general contract for improvements on the system between Chicago and Oelwein, Ia. H. Fernstrom, Ch. Engr., St. Paul, Minn.

**CHICAGO, MILWAUKEE & ST. PAUL.**—Grant, Linton & Co., Minneapolis, Minn., are reported to have received the contract for building two extensions to this system in Iowa. One will run from Fonda to Spencer, 43 miles, and the other from Rockwell City to Storm Lake, 36 miles. Work is to begin at once. D. J. Whittemore, Ch. Engr., Chicago.

**COLORADO & WYOMING VALLEY.**—Incorporated in Colorado, with $100,000 capital stock, to operate lines of railway from Pueblo, Colo., via Denver, Cheyenne and Wendover to Hartville, Wyo., where the Colorado Fuel & Coal Co. has recently leased extensive iron and copper properties. The incorporators are: J. A. Kebler, John L. Jerome, D. C. Beaman, F. Wilde, Jr., and Geo. W. Bowen, all officers of the Colorado Fuel & Iron Co.

**COLUMBIA SOUTHERN.**—E. E. Lytle, Moro, Ore., informs us that the right of way has been obtained and the capital secured for an extension of this line from Grass Valley, Ore., to Moody Station, 30 miles. Grading and construction work will be done by the company. A. E. Hammond, Moro.

**CUBA.**—Press reports state that the Central R. R. Co. of Cuba, with headquarters at Havana, will shortly begin the construction of the line proposed to open up the Provinces of Puerto Prince and Santa Clara.

**EASTERN KENTUCKY.**—Bids are now asked for grading about 27 miles of railroad, including two short tunnels, in Eastern Kentucky, as stated in our advertising columns. Address P. O. Box 366, Lexington, Ky.

**EDMONTON & STAVE LAKE.**—This company proposes to build a line from Edmonton to Peace River, 400 miles, in order to connect the navigable waters of the Saskatchewan, Athabasca and Peace rivers and Lesser Slave Lake. John Costigan and George Goodwin, Ottawa, Ont., are promoters.

**HARRISBURG SOUTHERN.**—Surveys are in progress, according to reports, on this proposed line from Marion, Ill., via Harrisburg, Galatia and Roseclaire to the Ohio River, 60 miles. Contracts will probably be let in June. Seth F. Crews, Pres., Chicago, Ill.; W. C. McCloy, Ch. Engr., Harrisburg, Ill.

**HAWAII.**—Railway construction is now in progress on Hawaii Island, the largest and most southerly of the group. Chas. H. Kluegel, Ch. Engr. of Oahu Ry. & Land Co., is in charge of the survey and construction of the railways on Hawaii. A line through the Olaa District will probably be constructed first, and work will commence in the near future, as rails have already been ordered. The line through North Hilo and Hamakua will follow more or less closely the government road. It will have its own roadbed, and will be run so as to touch the various mills along the coast.

**LAWNDALE.**—H. F. Schenck, Pres., Lawndale, N. C., informs us that J. R. Oates, Shelby, N. C., has been awarded the contract and has just begun work for this proposed 10-mile line to be built between Lawndale and Shelby for the Cleveland Cotton Mills. The right of way has been obtained and capital secured. Fleming Ramsaur, Ch. Engr., Lawndale, N. C.

**MANHATTAN TUNNEL.**—The Manhattan Tunnel Ry. Co. was incorporated in New York, May 17, with $10,000 capital stock, to construct and operate a railway from Canal St., New York city, to the North River, and thence by tunnel under the river to Jersey City, N. J. It is said that this company is distinct from the old North River Tunnel Co. Wm. E. Knight and David J. Newland, 20 Broad St., New York, are directors.

**MINNEAPOLIS & ST. LOUIS.**—We are informed that the final location has been made, all of the right of way practically obtained and capital secured for the construction of this proposed extension from New Ulm, Minn., to Storm Lake, Ia., via St. James and Sherburn, Minn., and Estherville, Spencer and Sioux Rapids, Ia., 138 miles. Johnston Bros. & Faught, St. Elmo, Ill., have received the contract for constructing the line between New Ulm and Spencer, 100 miles, and John Scott & Sons, for the work between Spencer and Storm Lake, 38 miles. H. G. Kelly, Ch. Engr., 1124 Guaranty Loan Bldg., Minneapolis, Minn.

**NACOZARI.**—This company has filed incorporation papers in Arizona. It is proposed to construct a railway from Naco south to Nacozari, State of Sonora, Mexico, and thence along the Yaqui River to the Gulf of California. The promoters are said to be Phelps, Dodge & Co., main owners of the Copper Queen and Nacozari mines.

**PACIFIC & IDAHO NORTHERN.**—This company is said to have contracted for 10,000 tons of 65-lb. steel rails, to be laid on a projected line from Weiser, Idaho, to the Seven Devils and the Buffalo Hump mining districts. L. G. Wilkinson holds the contract for construction, and will probably begin work at once. Lewis A. Hall, Bay Mills, Mich., is said to be the principal promoter.

**PENN YAN, LAKE KEUKA & SOUTHERN.**—This company was incorporated in New York, May 19, with a capital stock of $400,000, of which $35,000 has been paid in, to construct a line from Savona to Penn Yan, N. Y., via Steuben, Schuyler and Yates counties, a distance of 35 miles. The directors are: John C. Zimmerman, Bradford, N. Y.; Francis C. Barnes, Jersey, N. J.; Henry D. Manson, New York; and others.

**PORT ANGELES EASTERN.**—The Van Norman Bridge Co., Seattle, Wash., Antonella & Leonard, McQueen & Baxter and Joseph Pecore are reported to have received contracts covering the construction of the first twelve miles of this road. The Fillon Mill Co., Port Angeles, Wash., has the contract for capping for the Railroad Ave. piling. Contractors are figuring on a further extension to Junction City. Isaac C. Atkinson, Vice-Pres. and Gen. Mgr.; E. A. Fitz Henry, Ch. Engr., both of Port Angeles, Wash.

**RAQUETTE LAKE.**—Work is said to be progressing on the new line which is to be an extension of the lumber road now running from Clearwater Station on the Adirondack & St. Lawrence division of the New York Central to the mill owned by the Thompson-Dix Co. This line is at present two miles long, and it is proposed to extend it to Raquette Lake, a distance of 18 miles. It will run from Clearwater Station to First Lake, and from First Lake parallel with the chain of lakes to Raquette Lake, and will be from 1,000 ft. to a half-mile from the lake shore, and will be of standard gage. The motive power will be compressed air. J. W. & E. Whalen, Whitehall, N. Y., will finish the work before Sept 1. Wm. C. Whitney and W. Seward Webb, of New York, are interested.

**WATERVILLE & WISCASSET.**—The Richmond & Potomac Construction Co., Waterville, Me., and 55 Broadway, New York, is reported to have suspended operations on the construction of this proposed 16-mile narrow-gage line from Waterville. About $30,000 in bona fide subscriptions have been made, and it is said that but $2,300 has thus far been used on three piers. Geo. K. Boutelle, Treas., Waterville.

## STREET AND ELECTRIC RAILWAYS.

**WESTBROOK, ME.**—It is reported that arrangements have just been completed whereby the first five miles of the proposed Westbrook, Windham & Harrison Electric Ry. will be built. James Mitchell, Portland, Me., will superintend the construction.

**BERKSHIRE, MASS.**—A bill to incorporate the Berkshire & Canaan St. Ry. Co. has been ordered to a third reading in the state legislature.

**IPSWICH, MASS.**—The selectmen have signed a contract with the Georgetown, Rowley & Ipswich Ry. Co., whereby the latter agrees to build through this town. Work is expected to begin at Georgetown at once.

**NEWBURYPORT, MASS.**—The Citizens' Electric St. Ry. has assumed control of the old Newburyport & Amesbury Horse R. R., and it is stated that part of the system will be rebuilt so as to permit the use of heavier cars. Wm. M. Butler, Pres.; C. F. Dennis, Supt.

**BUTTONWOODS, R. I.**—Reports state that the 10-mile branch of the Stonington Division of the New York, New Haven & Hartford R. R., between Auburn and Buttonwoods, has been sold to the United Ry. & Electric Co., Providence, R. I., which will operate it this summer as an electric line.

**PROVIDENCE, R. I.**—An act was introduced in the legislature May 23 to incorporate the Rhode Island Suburban Ry. Co., with a capital of $2,500,000. It is proposed to obtain from the United Traction & Electric Co. the rights acquired by that corporation in the Warwick & Oakland Beach and Bristol branches of the New York, New Haven & Hartford R. R. It practically seeks control of all existing and contemplated systems on both sides of Narragansett Bay.

**SHELTON, CONN.**—Hawks & Co., Boston, Mass., are reported to have received the contract for the setting of poles and stringing of necessary wires for the extension of the Shelton St. Ry. now being built by Blakeslee & Sons, New Haven, Conn.

**AUBURN, N. Y.**—The Auburn Inter-Urban Electric R. R. Co. has applied to the city council for a franchise to build on certain streets in this city. E. H. Herrling, Clk.

**BROADALBIN, N. Y.**—J. W. Cleveland, Engr., Broadalbin, informs us that a committee has been appointed to solicit subscriptions to the capital stock of the proposed line between this village and Saratoga, via Hagaman's, Rockton, Amsterdam and Galway, 22 miles.

**BROOKLYN, N. Y.**—The Brooklyn, New York & Jersey City Terminal Ry. Co. has been organized by W. H. Baldwin, Jr., Pres. of Long Island R. R., Long Island City, N.Y., and others, to construct a tunnel under the East River, so as to operate an electric line between Broadway and Cortlandt St., New York, and Brooklyn and Jamaica.——Governor Roosevelt has signed a bill which gives the Municipal Assembly of New York city the power to grant a 50-year franchise for a tunnel under the East River.

**CLYDE, N. Y.**—Chas. W. Field, Pres., Clyde, informs us that the Clyde & Sodus Bay R. R. Co. is ready to receive bids for constructing an electric line from Clyde to Bonniecastle, via Rose and North Rose, 12 miles. Preliminary surveys have been made by the Osborn Engineering Co., Osborn Bldg., Cleveland, O., and the right of way and consent of highway commissioners obtained. A prospectus has also been prepared.

**COXSACKIE, N. Y.**—The Coxsackie & Greeneville Traction Co. has been incorporated with a capital stock of $200,000, to operate the lines of the Greene County Traction Co. and the Coxsackie & Greeneville Traction Co. Dr. Jas. D. Perry, New York; Wm. S. Vanderbilt, Greeneville, and N. A. Calkins, Coxsackie, are directors.

**ELMIRA, N. Y.**—H. B. Rhymer, Pres. of the Elmira & Corning Ry. Co., whose incorporation was noted in our last issue, informs us that the survey has been made, and the right of way obtained for this proposed electric line form Elmira Heights to Gibson, via Horseheads and Big Flats, 18 miles. The capital has not yet been secured, but several offers have been made to take bonds.

**FAR ROCKAWAY (L. I.), N. Y.**—It is reported that P. H. Flynn and associates have awarded the contract for building a trolley line across Jamaica Bay to Rockaway Beach to the New Jersey Construction Co.

**MASSENA, N. Y.**—The trustees of Massena have granted a perpetual franchise to the Massena Electric St. Ry. Co. to build in this village.

**NIAGARA FALLS, N. Y.**—An order has been granted by the Supreme Court to Godfrey Morgan, Receiver of the Gorge road, authorizing him to borrow $25,000 for the purpose of putting the road in condition for traffic.

**SCARSDALE, N. Y.**—The Tarrytown, White Plains & Mamaroneck Electric Ry. Co. has been granted a franchise to build a single track through this town.

**SILVER SPRINGS, N. Y.**—The Perry, Castile, Silver Springs & Pike Ry., of Silver Springs, was incorporated in New York, May 9, with $200,000 capital stock. It is proposed to operate an electric line through Pike, Genessee Falls, Gainesville, Castile, Perry and Silver Springs. The directors are: John H. Duncan, Silver Springs; Fred. H. Lyon, Castile, N. Y., and others.

**ELIZABETH, N. J.**—Louis Quien, Engr., 251 Elizabeth Ave., is now locating the proposed electric line to be built from Elizabethport to Westfield and thence to Plainfield by Senator John Kean. It is said that the order for rails has been placed, and that the work in this city will soon begin.

**ERIE, PA.**—Plans are now being perfected, according to reports, for the construction of the Erie, Edinboro & Cambridge Motor Line. R. B. Willis, Erie, has been awarded the contract for furnishing 55,000 ties, 380,000 ft. of lumber for trestle work, and 200,000 ft. of planking. Bids have also been received for grading. C. M. Stephens, Construction Engr., Peach St.

**LANCASTER, PA.**—Wm. B. Given, Pres., Columbia, Pa., informs us that the Lancaster, Mechanicsburg & New Holland R. R. Co., whose incorporation was noted in our last issue, has leased the Lancaster & New Holland Turnpike, and is now engaged in procuring the consents of adjacent property holders. The proposed line will be 12 miles in length, running from Lancaster to New Holland.

**POTTSVILLE, PA.**—The Pottsville Union Traction Co. has been incorporated, according to reports, with $100,000 capital stock, to control the four trolley lines operated in the lower part of Schuylkill county. John W. Emery, Norman A. Taylor and J. G. McPherson, of Philadelphia, are incorporators.

**WASHINGTON, D. C.**—The district commissioners have issued a permit to Geo. H. Harries, Pres. of the Washington & Gettysburg R. R. Co., to begin the construction of its electric line within the district.

**HAGERSTOWN, MD.**—The council has granted a franchise to Douglass Bros., Millerstown, Pa., for the construction of the proposed Hagerstown & Myersville electric line through this city.

**PETERSBURG, VA.**—We are informed that James F. Bradley, Petersburg, is now at work on the construction of the new street electric railway in this city. He has only the contract for the roadbed construction. Lancaster Williams, Pres., Richmond, Va.; Jas. F. Heywood, Ch. Engr., Baltimore, Md.

RICHMOND, VA.—Winston & Co., Louisa, Va., have been awarded the contract for the construction work on the new power plant of the Virginia Electrical Ry. & Development Co. on the James River, as advertised in Engineering News, at $128,930. The full list of bids is given under Contract Prices. The general contractor for the whole work is the James River Construction Co., an auxiliary of the Development Co. Reuben Sherreffs, Ch. Engr.

SISTERSVILLE, W. VA.—John Howard, Wheeling, W. Va.; J. Lee Harne, Middlebourne, and others, are reported to be interested in the construction of a proposed line from this city to Middlebourne, 12 miles; estimated cost, $300,000.

CHATTANOOGA, TENN.—Neely & Smith, 122 East 7th St., have been awarded the contract for constructing the Chickamauga Park extension of the Chattanooga Rapid Transit system, and expect to begin work at once. The distance is about 5 miles. S. W. Divine, Pres. and Mgr.

JACKSON, MISS.—S. T. Carnes, Secy., Memphis, Tenn., informs us that the 5 miles of horse-car line operated in this city by the Jackson Electric Ry., Light & Power Co. are being converted into an electric system, and that work is about completed. F. G. Jones, Pres., Gen. Mgr. of Memphis St. Ry. Co., Memphis.

COLUMBUS, O.—The Columbus, New Albany & Johnstown Traction Co. was incorporated May 22 with a capital stock of $200,000, to build from Columbus to Johnstown. D. J. Ryan, Dr. W. Shepherd and J. W. Dusenbury, of Columbus, are interested.

STEUBENVILLE, O.—Application has been made to the commissioners of Jefferson county for a franchise to construct an elevated electric railway between Toronto and Steubenville. William Freudenberger, Agent.

TOLEDO, O.—L. B. French, Detroit, Mich., has applied to the commissioners of Lucas county for the right of way for a projected line from Toledo to Ottawa Lake, Riga, Blissfield, Palmyra and Adrian.

INDIANAPOLIS, IND.—We are informed that the contract for surveying the Indianapolis & Martinsville Electric St. Ry., over the Mooresville free gravel road, a distance of 30 miles, has been let to J. Clyde Power, Indianapolis. There were eight bids submitted and the prices per mile were all pretty close together. J. C. Tarkington, Gen. Mgr., Indianapolis & Martinsville Transit Co., 218 North Meridian St.

TERRE HAUTE, IND.—C. L. Webster and C. E. Stone, of Boston, Mass., are reported to have closed their options on the mortgage bonds of the Terre Haute Electric Ry. Co. It is expected to improve the property, and possibly make it a part of an extensive system.

DETROIT, MICH.—The Detroit & Port Huron Electric Shore Line Co. was incorporated in New Jersey May 18 with $125,000 capital stock. Wolcott P. Robbins, J. R. Timan and Henry P. Driggs are incorporators.

YPSILANTI, MICH.—The Ypsilanti & Saline Ry. Co. has been incorporated with $2,500 capital stock, by R. W. Hemphill, H. P. Glover and others.

MANKATO, MINN.—A. E. Clark, representing the Mankato Electric St. Ry. Lighting & Power Co., has applied to the county board for a franchise to build on the public highways leading to Alma City and to Madison Lake.

HANNIBAL, MO.—The Hannibal Traction Co. was incorporated May 8, with a capital stock of $100,000, by Charles D. Haines, E. T. Haines, R. H. Stillwell and others.

SEATTLE, WASH.—The consolidation of six of the eight street railway companies of Seattle is said to have been effected by Stone & Webster, Boston, Mass.

NELSON, B. C.—By-laws will be voted upon May 29, granting an exclusive franchise to the British Electric Traction Co. for the construction of an electric line in Nelson, work to commence during the coming summer. F. W. Peters and Capt. Duncan, Nelson, may be addressed.

HAVANA, CUBA.—G. F. Greenwood, Consulting Engr. to Consolidated Traction Co., Pittsburg, Pa., has been chosen to rebuild the street-car system in Havana.

## ELECTRIC LIGHT AND POWER.

LISBON FALLS, ME.—Geo. Foster & Sons, Everett Block, are reported as wanting bids for dynamos and machinery for a small plant.

FAIRHAVEN, MASS.—The commissioners have recommended that the town should not build a plant.

ORANGE, MASS.—The plant and property of the Orange Electric Co. has been sold to Fred. H. Smith and J. R. Graham, of Quincy, Mass. It is stated that the new owners will put in considerable new machinery.

REVERE, MASS.—By a vote of 130 to 3, this town on May 16 decided to have a municipal plant.

EAST PROVIDENCE, R. I.—The committee of the Business Men's Association has submitted its report, in which it is in favor of a city plant, but recommends further investigation. John McCausland, W. B. Pierce and J. J. Luther are on the committee.

NEWPORT, R. I.—Bids are asked until June 24 for furnishing and installing an electric light and power plant in the gun emplacement at the Dumplings, Conanicut Island, R. I., as stated in our advertising columns. Maj. D. W. Lockwood, U. S. Engr.

HERKIMER, N. Y.—Bids are asked by the board of trustees until May 29 for the purchase of $13,000 of bonds for the proposed electric plant.

NEW YORK, N. Y.—Bids are asked by the department of education, 585 Broadway, until May 29, for installing electric plants in 10 public school buildings.

NIAGARA FALLS, N. Y.—Braas Bros. & Lennon have been been awarded the contract for building an addition to the transformer room of the Niagara Falls Power Co.'s plant.

YONKERS, N. Y.—The Consumers' Electric Co. has rejected the franchise for which it made application to the aldermen. F. A. Stratton, Pres.

BLACKWOOD, N. J.—Press reports state that the old woolen mill property at Good Intent, near here, has been purchased by capitalists, and an electric power house will be established. The water power which was formerly used to operate the mill will be used in generating electricity for lighting Blackwood and other places in this vicinity.

BORDENTOWN, N. J.—Several citizens of this place propose to build a plant to light Allentown and Crosswicks.

NEW BRUNSWICK, N. J.—It is stated that the plant of the Edison Electric Illuminating Co., has been purchased by a syndicate represented by Hobart Tuttle, Paterson.

PATERSON, N. J.—David Henry and William Goodman are reported to have been awarded a contract for a new power house at Boonton for the Morris County Electric Co. to cost about $38,000.

PATERSON, N. J.—Alderman Durget has introduced a resolution authorizing the city to investigate the question of building its own plant.

BRADDOCK, PA.—The Braddock Gas & Light Co. has been consolidated with the Homestead Electric Light Co. The syndicate will also secure control of the plants at Duquesne, Wilkinsburg and McKeesport, Pa. W. W. McCleary, Gen. Mgr., Braddock.

GIRARD, PA.—C. J. Reeder, Clk. Council, writes us that an election was called for May 23 to vote on the question of building a combined plant and water-works to cost $23,000. J. F. Witmer, Engr., Ellicott Square, Buffalo.

HAZLETON, PA.—A syndicate, represented by A. C. Jones & Co., of New York, is reported to have secured control of the Edison Electric Illuminating Co., of this city; the West End Electric Light Co., of West Hazleton, and the Electric Light & Power Co., of Freeland. Alvin Markle, Gen. Mgr.

PECKVILLE, PA.—The council of Blakely has voted to issue $5,000 in bonds for completing the plant.

DOVER, DEL.—Bids will soon be asked by the town council for constructing the proposed plant. It will have a capacity for 1,000 incandescent and 60 arc lights. Chas. Russell and T. Grover Smith, Elec. Engrs., Philadelphia.

ELKTON, MD.—The new town commissioners are agitating the question of municipal ownership of the plant and water-works. S. J. Keys, Pres.; W. H. Mackall, Secy.

GREAT FALLS, MD.—It is stated by Washington papers that arrangements are being made to begin the construction at once of the plant at Great Falls, on the Potomac River. Estimated cost, $1,000,000. Oscar T. Crosby and Chas. A. Lieb, Pres. Washington Automobile Co., Washington, D. C., are interested.

WILLIAMSPORT, MD.—Bids are asked until May 31 for furnishing the materials and for constructing a plant to cost about $6,500. There will be 20 2,000-c. p. arc lights. D. M. Munroe, Engr., Gaithersburg, Md.; L. T. Byron, Chn. Bd. Supervisors.

PETERSBURG, VA.—C. P. E. Burgwyn, Civil Engr., 819½ East Main St., Richmond, Va., is reported as investigating the feasibility of constructing a power plant on the Appomattox River, near this city.

DURHAM, N. C.—The Durham Electric Lighting Co., which has just been reorganized, will soon let the contract for a new power house, according to reports. Maj. Wm. A. Guthrie, Pres.; H. T. Brown, Supt.

GREENSBORO, N. C.—An election will be held July 18 to vote on the question of issuing $25,000 in bonds for a plant.

ABBEVILLE, S. C.—Bids are asked until June 15 for lighting the streets with 40 enclosed 1,200-c. p. arc lights for three or more years. Dr. G. A. Neuffer, Chn.

JACKSONVILLE, FLA.—The Atlantic, Valdorta & Western Ry. Co. has asked the city to extend its light lines to furnish the company's property with about 300 incandescent and 20 arc lights. E. C. Long, Vice-Pres.

DECATUR, GA.—L. Everhart writes us that the question of building a plant here has fallen through.

DURANT, MISS.—W. C. Porter, McComb, Miss., and Columbia Bldg., Louisville, Ky., has been engaged to prepare plans for a plant.

SUMMIT, MISS.—Plans for a plant are to be prepared by W. C. Porter, McComb, Miss.

CHATTANOOGA, TENN.—The chamber of commerce proposes to urge the construction of a plant to furnish power to the factories. I. B. Merriam and W. B. Swaney, Pres., may be addressed.

SPARTA, TENN.—E. L. Martin, Tullahoma, proposes to build a plant for this place.

CORBIN, KY.—On May 23 the council is reported to have received propositions for the purchase of a 15-year franchise for a plant.

VERSAILLES, KY.—It is stated that an Eastern syndicate, represented by Edward Gunter, Wilkes-Barre, Pa., has closed a deal for the Versailles electric light plant. It also has an option on the Versailles ice factory, and will apply to the city council for a water-works franchise, with a view of combining the enterprises. It is reported that Mr. Gunter is backed by Williams & Sons, who bought the Lexington St. Ry.

CINCINNATI, O.—B. L. Baldwin, Mech. Engr., Perin Bldg., writes us that approximate cost, etc., of installing a plant for the Hamilton county court house was more than double the amount at present paid for gas, so the question of putting in a new plant has been dropped for the present.

DOYLESTOWN, O.—G. W. Barkhamer, Mayor, writes us that the town will erect a plant only if by so doing an electric railway will be assured, of which at present there is no indications.

PAYNE, O.—The council has awarded a contract to Jos. Tarault for lighting the town. The plant must be completed in two months.

SANDUSKY, O.—The Sandusky Gas & Electric Co. has secured control of the property of the Sandusky Gas Light Co.

BAD AXE, MICH.—This place has voted to issue $8,500 in bonds for a plant.

ELK RAPIDS, MICH.—The Elk Rapids Iron Co., it is stated, will soon put in a plant. Julius Paige, Elec. Engr.

APPLETON, WIS.—Robt. Pride, Appleton, has purchased a water power site in this city. It is stated that considerable new machinery will be put in.

HARTLAND, WIS.—H. W. Goodwin, Secy, Hartland Water Power Improvement Co., writes us that improvements to the water power will be unimportant, and have not yet been decided upon.

JACKSON, MINN.—This place voted May 16 to issue $10,000 in bonds for a plant, according to reports.

MONTICELLO, MINN.—It is stated that the council will soon put in a plant.

STARBUCK, MINN.—This place voted May 8 to issue $4,500 in bonds for a plant and water-works.

WATERVILLE, MINN.—J. P. Brown & Co., Knoxville, Tenn., have been granted a 25-year franchise for a plant, which must be in operation in 18 months.

DAVENPORT, IA.—W. C. Hayward, of the Davenport Business Men's Association, writes us that nothing has yet been done in regard to developing water power in the Mississippi River at this place, except to investigate the subject in a preliminary way.

RED OAK, IA.—It is stated that the Red Oak Electric Co. has been granted a 20-year franchise for a plant.

VALLEY JUNCTION, IA.—The Seckner Contracting Co., The Rookery, Chicago, has offered to build a plant and water-works for $15,000.

CREIGHTON, NEB.—A. P. Schneider, of the Creighton Electric Light Co., writes us that bids will be wanted June 1 for the machinery for a plant to cost $3,500. A water-wheel will be wanted.

MAYVILLE, N. DAK.—W. I. Gray & Co., Sykes Bldg., Minneapolis, Minn., are reported to have been awarded the contract for constructing a plant and water-works at about $21,400.

ARKANSAS CITY, KAN.—Bids are asked until June 15 for furnishing the materials and constructing a plant at the Chilocco Indian Industrial School, Okla. Ter. C. W. Goodman, Supt., Arkansas City; A. C. Tonner, Acting Indian Comr., Dept. Interior.

KANSAS CITY, MO.—Local papers state that C. C. Christie, Pres. Christie Street Commission Co., Kansas City.; A. B. Stickney, Pres. Chicago Great Western Ry. Co., and Dr. W. S. Woods, Pres. National Bank of Commerce are reported as interested in a proposed power plant to be built at Missouri City, 21 miles from here. It will furnish light and power for places within a radius of 25 miles of that place. Estimated cost, about $1,000,000.

EL PASO, TEX.—J. P. Dieter, Felix Martinez and others are reported as interested in a proposed plant to cost about $20,000.

DENVER, COLO.—Mayor Johnson has recommended in a message that the city take steps towards the ownership of the plant and water-works.

REPUBLIC, WASH.—The question of building a plant and water-works is being considered.

SPOKANE, WASH.—The Washington Water Power Co. is reported as buying certain property which it will improve for light and power. H. M. Richards, Pres.

SAN FRANCISCO, CAL.—The Independent Light & Power Co. is reported to have let contracts for materials for the proposed plant amounting to about $2,000,000. Claus Spreckels, Pres.

GALT, ONT.—J. H. Scott writes us that none of bids received May 10 for constructing a plant was considered satisfactory and no contract has yet been made.

NIAGARA FALLS, ONT.—Press reports state as follows: The Ontario government has ratified its deal with reference to the Niagara power franchise, which was granted to the Rankin Pan-American Co. for $25,000 a year. The company has agreed to accept in lieu thereof 10,000-HP. development for $25,000 a year, $1 a horse power for the next 10,000, 75 cts. for the third 10,000 and 50 cts. a horse power a year for the remaining power to be developed up to 100,000-HP. The government secured a report from Jno. Kennedy, Ch. Engr. Harbor Comrs., Montreal, on the possibilities of power development at Niagara Falls, in which he says it is feasible to produce 600,000 HP. above the proposed site of the Rankin company's plant.

NELSON, B. C.—We are informed that the people will vote May 29 on the question of issuing $15,000 in bonds for extending the plant. This will include the construction of a 36 x 20-in. wooden flume from Salmon River to Cottonwood Lake, the construction of a regulating dam at Cottonwood Lake, putting in a new 6-ft. Pelton water wheel and an additional dynamo at the power house.

ROSSLAND, B. C.—An election was held May 22 to vote on the question of issuing $150,000 in bonds for a plant and water-works, according to reports.

MANAGUA, NICARAGUA, C. A.—Herbert W. Savage, Saginaw, Mich., writes us that a company is being formed to put in a plant to utilize the waters of the Tipitapo River, connecting Lakes Nicaragua and Managua. Work will not likely be started for a month or six weeks. The plant will be a large one and will be for power and lighting.

GUADALAJARA, JALISCO, MEX.—It is stated that Fernandez del Valle & Bros., of this city, will soon want bids for machinery for a plant to develop about 10,000 HP. The plant will furnish power to cotton mills and light for the city.——F. M. Negrate & Sons, of this place, are also preparing to put in a plant to furnish about 6,000 HP. for cotton mills. This plant will be on the Rio Grande River del Santiago. Population, 85,000.

NEW COMPANIES.—Hartland Water Power Improvement Co., Hartland, Wis.; $4,000; H. W. Goodwin, Mads. Larson, Mark Rowell.

Camden Water, Light & Ice Co., Camden, S. C.; $100,000; Frank W. Bull, of Racine, Wis., and E. C. Mandeville, of Camden. We are informed that the plants are in operation.

Unique Power, Light & Water Co., Christiansburg, Va.; $10,000; James Rigby, James Rigby, Jr., Francis Rigby.

National Light & Power Co., Newark, N. J.; $15,000,000; Carl Roswell Miner, Frederick L. Austin, F. V. Dobbins.

Pure Ice, Coal & Electricity Lighting Co., Caruthersville, Mo.; $18,000, with one-half paid in; Otto L. Seyppel, Seyppel, Ark.; T. G. Sedgwick, E. H. Slater, Caruthersville.

Manistique Light Co., Manistique, Mich.; $20,000, $11,000 paid in; G. H. Orr, V. P. Chappel, Benj. Giro, Manistique.

Augusta Heat, Light & Power Co., Augusta, Ga.; $100,000 paid in; C. D. French, Pres.; G. D. Knapp, Secy.

Monongahela Light & Power Co., Pittsburgh, Pa.; $1,000; Wm. E. Walsh, Chas. F. Farren, Walter S. Mitchell.

South Bethlehem Electric Light Co., South Bethlehem, Pa.; $30,000, $3,000 paid in; Charles P. Hoffman, William H. Lauer, M. J. McBride.

Peoria Lighting & Power Co., Peoria, Ill.; $50,000; Lewis W. May, Godfrey M. Luthy.

Paonia Water & Light Co., Paonia, Colo.; $10,000; W. A. Clark, Milton Spencer, J. F. Wanamaker.

Mt. Gilead Electric Light, Heat & Power Co., Mt. Gilead, Ohio, $50,000; W. M. Carlisle, M. Burr Talmage.

Washington Lighting Co., Massilon, O.: $30,000; Wm. E. Humberger, Elmer E. Fox, Jeremiah E. Seese.

Southern Acetylene Gas Co., Louisville, Ky.; $200,000; John Chambers, R. W. Bingham, Henry Chambers.

The Kern Incandescent Light Co.; $12,000,000; Ernes Ayrault and Charles W. Dayton, of New York; J. P. Murray, Jersey City.

The General Gas, Electric & Power Co., of East Orange, N. J.; $75,000, of which $1,100 is paid up; George B. Drescher, of Jersey City; Omar Powell, of New York, and William E. Heattie, of Arlington.

Los Angeles Lighting Co., Cal., $1,250,000; all paid; A. W. Roche, E. Groenendyke, of Pasadena; R. M. Adams.

National Electric Co., Chester, Pa., $25,000,000; Sanderson & Porter Co., Hartford, Conn.; $10,000, with $2,070 paid in; E. N. Sanderson, E. D. Robbins, Andrew J. Broughel, Jr.

United Electric Light & Power Co., Baltimore, Md.; $3,000,000; Nelson Perrin, Pres.; Josiah L. Blackwell, Vice-Pres.; John W. Ellard, Secy.

International Construction & Power Co., Boston, Mass.; $5,000,000; Jas. F. Shaw, P. W. Sprague, E. P. Shaw.

Somerset & Kennebec Co., Portland, Me.; $800,000; Chas. D. Brown, Salem, Mass., Pres.; Wm. A. Russell, Lawrence, Mass., Treas.

Terrace City Improvement & Construction Co., Yonkers, N. Y.; $100,000; to furnish electricity for lighting purposes in Yonkers; Owen E. Wilson, Albany; David L. Gluck, New York; Fremont Wilson, Yonkers.

Elwood Electric Co., Rochester, N. Y.; $2,500; Alfred Elwood, Charles A. Elwood, W. Irving Peacock, Rochester.

Granville Electric Light & Power Co., Granville, N. Y.; $80,000; A. Reimer, Dover Plains, N. Y.; E. R. Norton, E. W. Wyman, of Granville.

Virginia Beach Ice Co., Norfolk, Va.; $20,000; ice and elecric plant, fertilizers, etc.; Jas. S. Groves, S. J. Kennedy, L. Groves.

Vincennes Traction, Light & Power Co., Vincennes, Ind.; $100,000; B. G. Hudnut, C. A. Gordon, A. G. Adams.

Brownstown Water & Light Co., Brownstown, Ind.; $8,000; John B. Burrell, C. A. Balles and G. W. Sturtevant.

Marion Electric Co., Marion, Ind.; $120,000; F. H. Worthington, H. C. Knode, B. F. Burk.

Central Power Co., Indianapolis, Ind.; $10,000; Peter and A. N. Kreitzer, John H. Murphy.

Durand Light & Power Co., Durand, Wis.; $25,000, over half paid in; George Tarrant, Jr.; Frank Pierce, W. E. Plummer.

Eastern Townships Electric Co., North Hatley, Que.; $30,000; Andrew J. Gordon, Fritz E. Lovell, Jacob W. Barnard.——W. H. Coleman, Andover, Mass., writes us that the plant is in operation.

## BRIDGES.

SPRINGFIELD, MASS.—Reports state that a bill is now pending in the legislature providing for a new Connecticut River bridge between Springfield and West Springfield; estimated cost, about $350,000.

ALBANY, N. Y.—Reports state that the following contracts for building bridges have been awarded: Lift bridge at Canastota, Havana Bridge Works, $15,693. Repairing the bridge at the foot of Liberty St., Penn Yan, Wm. I. Marsen, Geneva, $1,182. Completing the bridge over the inlet to Otsego Lake, Onondaga county, Gillette, Hay & Gillette, Rochester, $6,943. Bridge over the Erie Canal or Tonawanda Creek, between Pendelton and Picketts Bridge, Hilton Bridge Co., $10,641.

BUFFALO, N. Y.—Bids are asked until June 3 for the construction and erection of the superstructure for a viaduct over the New York, Chicago & St. Louis R. R., the Western New York & Pennsylvania Ry. and the Buffalo Creek R. R., in Abbott Road, as stated in our advertising columns. F. V. E. Bardol, Ch. Engr., 436 Ellicott Square.——It is reported that the contract for the construction of the superstructure over the Lake Shore & Michigan Southern and Erie R. R. bridges at the Elk St. and Abbott Road viaduct has been awarded to the Elmira Bridge Co., at $197,217.

BUFFALO, N. Y.—Reports state that the bill providing for the erection of a bridge over Black Rock Harbor, to cost $18,000, has been signed by Governor Roosevelt; it is to be erected by the Grand Trunk Ry. Co., and plans are being prepared by Jos. Hobson, Ch. Engr., Montreal, Que.

COHOES, N. Y.—On May 17, Governor Roosevelt signed the bill appropriating $5,000 to construct a bridge over the Champlain Canal, where it crosses Ontario St., and for the removal of the old bridge at that point.

GREENWICH, N. Y.—It is reported that an order has been issued by Justice S. A. Kellogg permitting the Greenwich & Schuylerville Electric R. R. Co. to erect a bridge across the Hudson River between the towns of Greenwich and Northumberland.

LOCKPORT, N. Y.—It is reported that a bill has been passed appropriating $16,000 for the rebuilding of a canal bridge at Chapel St.

SYRACUSE, N. Y.—Bids are asked until 3 p. m., May 29, for constructing a steel girder bridge over the Onondaga Creek at its intersection with West Fayette St. R. R. Stuart, Cy. Engr.; George J. Metz, Cy. Clk.

CAPE MAY, N. J.—Bids are asked until June 5 for the construction of a steel bridge, 105 ft. long, over Cape Island Creek, at Schillinger's Landing, as stated in our advertising columns. H. S. Rutherford, Box 863, Cape May City, N. J.

CARLISLE, PA.—It is stated that the council has decided to build a new stone bridge.

PITTSBURG, PA.—Reports state that the contract for constructing the superstructures of 13 county bridges has been awarded to the Pittsburg Bridge Co., at $18,995.

READING, PA.—Adam H. Leader, Mayor, writes us that an iron or steel bridge is proposed to be erected on Spring St., between Nicolls and 6th Sts., to be 42 ft. wide, with two overhead spans, each 164 ft. long; foundation of stone; 330 ft. of steel approach setting on ten pairs columns; estimated cost of superstructure, $45,000; substructure, $15,000. S. S. Hoff, Cy. Engr.

SEWICKLEY, PA.—Reports state that a bridge is to be erected over the Ohio River at this place.

GIBSON, GA.—Bids are asked until June 6 for the construction of a bridge at this place. B. F. Walker, County Clk.

SAVANNAH, GA.—Bids are asked until May 29 for grading, laying track, building trestles and substructure of bridge across the Savannah River, from Meridan to Huchinson Island, on the Georgia & Alabama Ry. extension. A. Hunter Johnson, Ch. Engr.

NEWPORT, KY.—Bids are asked until June 5 for the erection of the iron spans over Ten Mile and Phillips Creeks, as stated in our advertising columns. E. E. Ball, Engr.

BOWLING GREEN, O.—The county commissioners of Wood and Lucas counties have decided to erect a bridge over the Maumee River at a point immediately below the village of Grand Rapids.

CINCINNATI, O.—Reports state that City Engineer Punshon has submitted plans for permanently repairing the western approach to the Eighth St. viaduct; the cost of the work wil be about $24,772.

GRAND RAPIDS, O.—Reports state that the council has decided to replace the old wooden bridge with a new steel one.

NORWALK, O.—Bids are asked by the council until June 20 for the construction of the Linwood Ave. viaduct at Norwalk. T. P. Kellogg, Cy. Clk.

PAINESVILLE, O.—Bids are asked by the county commissioners until May 30 for $35,000 4% bridge bonds, according to reports.

PAINESVILLE, O.—Bids are asked by the county commissioners of Lake county until June 7 for the construction and erection of the superstructure for a highway bridge across Grand River, between Painesville and Fairport.

WAKARUSA, IND.—Bids are asked until May 30 for the construction of a steel bridge across Baugo Creek, one mile north of Wakarusa. E. L. D. Foster, Audr., Elkhart county.

BELLEVILLE, ILL.—Reports state that a special committee of the county board of supervisors has ordered a new 400-ft. bridge to be built over a slough in Engelmann township.

RICE, MINN.—J. C. Mombury, Town Clk., informs us that bids will soon be asked for the construction of a steel bridge across the Mississippi River at this place; estimated cost, $10,000.

SAUK RAPIDS, MINN.—The county commissioners are reported to have voted to erect a new steel bridge across the Mississippi River; estimated cost, $12,500.

DES MOINES, IA.—It is reported that City Engineer King is preparing plans for a 700-ft. bridge.

KANSAS CITY, MO.—Reports state that the Winner bridge is to be completed, and the old plans will not be materially changed.

HENRIETTA, TEX.—It is reported that the county commissioners have decided to build a steel bridge across the Little Wichita River, on the Ed. Wright Road.

DENVER, COLO.—H. C. Lowrie, Engr. Bd. Pub. Wks., has submitted estimates for the construction of the Colfax viaduct; cost about $484,239.

CUT BANK, MONT.—Reports state that the Great Northern R. R. Co. has advertised for bids for constructing two bridges, each to cost $80,000.

GLENDIVE, MONT.—It is reported that a committee from the Northern Pacific R. R. Co. has examined the site for the bridge which was swept away, with a view to building a new bridge. It is proposed to build a concrete central pier, protected by a heavy steel point, at a cost of $17,000.

ALBUQUERQUE, N. MEX.—Bids are asked by the county commissioners until June 5 for furnishing the material and for constructing a bridge over the Rio Grande near the village of Cochiti. Jas. A. Summers, Clk.

NOVELTY, WASH.—Bids are asked until June 16 for furnishing the material and for the construction of a steel bridge over Snoqualmie River, at this place.

SALEM, ORE.—Bids are asked by the council until June 7 for the construction of a bridge across the North Fork of the Santiam River, in Elkhorn.

CORRALITOS, CAL.—Bids are asked by the board of supervisors until June 5 for the erection of a combination bridge, 100-ft. span, to be built across Corralitos Creek.

KESWICK, CAL.—It is reported that the supervisors have voted to bridge the Sacramento River at this place.

PETALUMA, CAL.—Bids are asked by the board of supervisors until June 8 for the construction of a trestle bridge over Green Valley Creek.

VACAVILLE, CAL.—It is reported that the question of erecting a bridge across Sweeny Creek, near Talbot Place, is being considered.

CORNWALL, ONT.—The Osborn Co., Cleveland, O., has been selected as the inspecting engineer for the new New York & Ottawa R. R. bridge over the American channel of the St. Lawrence River at this point, which will replace the bridge which fell Sept. 6, 1898, as described in our issues of Sept. 8 and 15 and Dec. 29, 1898. The company will inspect the iron and steel and test the cement which is to be used in the structure.

PARIS, ONT.—Bids are asked until June 5 for the construction of a stone abutment and a 130-ft. span steel highway bridge. S. Dadson, Town Clk.

RUSSIA.—It is reported that the Phoenix Bridge Co., of Phoenixville, Pa., has been awarded the contract for six additional steel bridges by the Russian Government for use on the Trans-Siberian R. R.

## BUILDINGS.

ELLSWORTH, ME.—The commissioners of Hancock county have decided to ask for bids for building an extension to the court house.

PATTEN, ME.—Bids are asked until June 17 for the carpenter and mason work on the new masonic hall. G. W. Cooper, Chn.; E. C. Hodgins, Arch., 39 Hammond St., Bangor, Me.

ROCKLAND, ME.—W. H. Glover & Co., Rockland, were the lowest bidders for the erection of the new court house for Knox county, at $42,349 and $50,524, bidding on two plans.

BENNINGTON, VT.—Plans have been prepared for a new 4-story school building for the trustees of La Salle Parish, at Bennington, to cost $40,000. J. F. Gunson, Arch., Albany, N. Y.

DERBY, VT.—Bids are asked by the town of Derby until May 25 for erecting a brick-veneered school building at Derby Center Village. F. H. Davenport, Arch.

FALL RIVER, MASS.—Plans have been prepared for a new brick, stone and iron school building for St. Ann's Parish Society, to cost about $75,000. Rev. Charles Sanval, Pastor, 790 Main St.; L. G. Destremps, Arch.

FRANKLIN, MASS.—Bids are asked until May 27 for the stone and brick work on a 3-story building for St. Mary's Parish. Address Rev. M. J. Lee.

STOCKBRIDGE, MASS.—Bids will soon be asked for erecting a new school building, after plans by H. N. Wilson, Pittsfield, Mass.

AUBURN, R. I.—Bids are asked until May 27 for building an addition to the Cranston high school building at Auburn. D. S. Latham, Clk.

ALBANY, N. Y.—Collins Bros., masons and builders, have been awarded the contract for the construction of the new office building of the Albany Ry. Co. at Broadway and Columbia St., to cost about $40,000.

BROOKLYN, N. Y.—The trustees of the Brooklyn Institute of Arts and Sciences, on Montague St., have approved the plans for the central section of its new museum building, work upon which is expected to begin in about six weeks. A. Augustus Healy, Pres.

BROOKLYN, N. Y.—Bids are asked by the board of education, at 585 Broadway, New York, until June 5, for an addition to Public School 53; also for alterations in and erecting addition to Public School 63, Borough of Brooklyn.——A fire at Greenpoint, May 22, destroyed four factory buildings, twenty-five dwellings and other property at Franklin St. and Manhattan Ave; reported loss, $175,000.

BUFFALO, N. Y.—Charles Mosier has been awarded the contract for the terra cotta and mason work on the new Hotel Iroquois, at $60,000; H. C. Harrower, for the iron work, and Flacken & Davis, for plumbing and steam fitting. Eisenwein & Johnson, Archs., Ellicott Square.——Bids are being asked for erecting a brick and stone flat and store building for John Lehmann, at Grant and Arnold Sts., to cost $12,000. R. E. Williams, Arch., 1326 Prudential Bldg.

ELLIS ISLAND (N. Y. H.), N. Y.—The following bids were received by the supervising architect, Washington, D. C., May 22, for plumbing, marble and slate work for the main building at the U. S. Immigrant Station, Ellis Island, N. Y. Harbor:

| | | |
|---|---|---|
| Leon. D. Hosford, New York...... | $27,980 | *300 days. |
| Wells & Newton Co., New York.... | 24,784 | 120 " |
| Edward Joy, Syracuse, N. Y........ | 29,613 | 120 " |
| Howe & Bassett, Rochester........ | 29,337 | 9 mos. |
| Jas. Armstrong, New York.......... | 20,500 | specified. |
| Jas. Harley & Co., Brooklyn........ | 23,238 | 9 mos. |
| Jacob, Manneschmidt, Brooklyn.... | 28,018 | 10 " |
| W. H. Spelman & Co., New York... | 27,242 | specified. |

*Working days.

ELLIS ISLAND (N. Y. H.), N. Y.—The following bids were received by the supervising architect, Washington, D. C., May 18, for heating and ventilating apparatus for the main building of the U. S. Immigrant Station at Ellis Island, New York Harbor; all bidders of New York except E. P. Bates, Syracuse, N. Y.:

| | | |
|---|---|---|
| Frank Dobson ........................ | $78,900 | 12 mos. |
| Evans, Almiral & Co................ | 81,521 | 4 " |
| Baker, Smith & Co .................. | 73,246 | *60 days |
| Francis Bros. & Jellett ............ | 77,300 | 3 to 4 mos. |
| Edward P. Bates .................... | 84,000 | 6 " |
| William N. Tobin .................... | 82,600 | 110 days |
| New York Steam Fitting Co......... | 75,000 | 200 " |
| E. Rutzler ...... .................. | 71,512 | 12 mos. |
| Blake & Williams .................... | 74,545 | 6 " |
| G. A. Suter & Co .................... | 71,500 | 6 " |
| Walker & Chambers .................. | 79,489 | 300 days. |
| Gillis & Geoghegan .................. | 72,200 | 6 mos. |

*Working days.

LOWVILLE, N. Y.—Plans and specifications have been completed for the new town hall to be erected on Shady Ave. It will be of brick, and measure 67 × 120 ft.

NAPANOCH, N. Y.—Governor Roosevelt has signed a bill appropriating $150,000 for the completion of the Eastern New York Reformatory at this place.

NEW ROCHELLE, N. Y.—It is reported that preliminary plans are being prepared for remodeling the municipal building. E. H. Sturges, Arch.

NEW YORK, N. Y.—Bids are asked by the board of education, 585 Broadway, until May 29, for heating and ventilating apparatus and electric lighting, elevators, etc., for the new hall of the Board of Education; also for heating and ventilating apparatus for Public Schools 69 and 168.——Plans have been filed by John T. Williams for a 4-story brick store and office building at West and Beach Sts., to cost $125,000; by Jacob Lipsky, 101 East Broadway, for three 4-story brick flat buildings at St. Ann's Ave. and 158th St., to cost $114,000. M. J. Smallheiser, Arch., 192 Broadway; by Wm. Wahle, 602 West 138th St., for ten 3-story brick dwellings on Convent Ave., near 141st and 142d Sts., to cost $160,000. F. C. Zobel, Arch., 165 Broadway; by J. H. Burchell, 217 Montague St., for a 10-story brick hotel building at 132 and 134 West 47th St., to cost $150,000; D. G. Malcolm, Arch.; by the New York Fireproof Tenement Association for nine 6 and 7-story brick flat buildings at 41st St. and 10th and 11th Aves., to cost $337,500. Ernest Flagg, Arch., 35 Wall St.; by D. T. Kennedy, 19 West 74th St., for nine 4, 4½ and 5-story brick dwellings on 114th St., near the Boulevard, to cost $180,000. Neville & Bagge, Archs.; by Alonzo B. Kight, Owner, Arch. and Builder, for an 8-story brick flat building at 97 and 98 Central Park West, to cost $175,000; by the American Exchange National Bank, 128 Broadway, for a 16-story brick and stone office building at Cedar St. and Broadway, to cost $400,000. Clinton & Russell, Archs.; Mark Eidlitz & Son, Builders; by Andrew J. Connick, 220 5th Ave., for an 11-story brick, stone and iron business building at 214 5th Ave., to cost $150,000. Robert Maynicke, Arch., 725 Broadway; by Schmidt Bros., 112 East 129th St., for five 5-story brick flat buildings on 115th St., near Lenox Ave., to cost $124,000. Edward Wenz, Arch.; by J. D. Mennie, 1843 Madison Ave., for four 5-story brick flat buildings on 100th St., near 3d Ave., to cost $104,000. E. Wenz, Arch.; by E. W. Candee, 41 West 33d St., for an 8-story and a 9-story brick flat building at 39 to 43 East 27th St., to cost $165,000. Brun & Hauser, Archs., 1125 Broadway; by J. S. Huyler, 64 Irving Place, for a 7-story brick factory building at 128 to 132 East 18th St., to cost $100,000. J. W. Marshall, Arch.——Eugene Lentilhon, Pier A, North River, has been awarded the contract for removing the reservoir at 42d St. and 5th Ave., and for building the foundations for the new public library building at $378,692. There were 12 bidders, with bids ranging up to $577,000. The itemized bids were given in our issue of May 4.

NEW YORK, N. Y.—The following bids were received by the department of education May 22 for heating and ventilating apparatuses in Public Schools 5 and 70:

| | No. 5. | No. 70. |
|---|---|---|
| Frank Dobson, 218 East 42d St............. | $14,175 | $20,145 |
| Enoch Rutzler, 178 Centre St.............. | 13,370 | 19,559 |
| Evans, Almiral & Co., 45 Dey St......... | 13,585 | 20,552 |
| Blake & Williams, 362 West Broadway.... | 13,065 | 18,763 |
| John Neal's Sons, 218 Centre St.......... | 14,787 | 20,772 |
| New York Steam Fitting Co., 137 Elm St... | 13,182 | 20,675 |
| Phillip Doup & Co., New York city........ | 13,370 | 19,230 |

ROCHESTER, N. Y.—The 3-story building of the National Banking Co., on West Ave., was destroyed by fire May 12; reported loss, $80,000.

SMITHS LANDING, N. J.—Bids are asked until May 29 for alterations and additions to the Atlantic County Asylum at this place. S. Hudson Vaugn, Real Estate & Law Bldg., Atlantic City, N. J.

ALTOONA, PA.—Bids are asked until June 1 for erecting the Mirror Building for H. & W. H. Slep, at 11th Ave. and 10th St., to be of fireproof construction. Chas. M. Robinson, Arch., West Chestnut Ave., Altoona.

McKEES ROCKS, PA.—Bids are asked until May 26 for erecting an addition to the public school building. C. Kirchar, Secy.; Ellsworth Dean, Arch., 801 Penn Bldg.

PHILADELPHIA, PA.—Plans have been prepared for a new police station to be erected by the bureau of city property, at a cost of $60,000. Hazlehurst & Huckle, Archs., Girard Bldg.——Plans have been prepared by Yarnall & Goforth for a 7-story apartment house, to be erected at 12th and Spruce Sts.——Plans have been submitted by A. Raymond Raff, Contractor, for the construction of the 5-story stone and brick manufacturing building at 13th and Willow Sts., for David Stewart, to cost $60,000. R. Godefroy, Arch.

SHARON, PA.—Bids are asked until June 1, according to reports, for erecting an opera house at Sharon for L. S. Morgan, Newcastle, Pa. H. F. Kling, Arch., Youngstown, O.

STEELTON, PA.—T. H. Hamilton, Harrisburg, Pa., is reported to have been selected as architect for the new high school building, to cost about $50,000.

WASHINGTON, D. C.—Bids are asked until June 3 for constructing a 3-story brick addition to Barnes Hospital, at the Soldiers' Home, including plumbing, heating, etc.; also for the following improvements: (1) Remodel the present King Building, and erect two 3-story brick wings; (2) erect extension to boiler house about 50 ft. east; (3) remodel present heating and ventilating apparatus, King Building, and furnish all labor and material necessary to a complete new system throughout present building and new wings; (4) furnish and place in position one new boiler 5 ft. 6 ins. diameter, 18 ft. in length, and change position of present No. 6 boiler. Capt. Chas. W. Taylor, Secy. and Treas. of Soldiers' Home.——Bids were received by the quartermaster, May 17, for the construction, plumbing, heating and gas piping of a dead house and hospital as follows: Smith Bros., Baltimore, Md., $2,056; D. M. Weeks, Washington, $2,050; Wilson & Co., Washington, $2,375; Richardson & Burgess, Washington, $1,295; Wm. Roderick, $1,923; Peter McCarthy, Washington, $2,570; Wm. F. Wallington, Washington, $1,903; Mead & Reynolds, Washington, $1,828.

FORTRESS MONROE, VA.—Bids are asked until June 10 for constructing hospital steward's quarters at Fort Monroe. C. P. Townsley, Q. M.

NEWPORT NEWS, VA.—Bids are asked until June 1 for erecting a brick, stone and steel church building, 60 × 97 ft., for St. Paul's Episcopal Church of this city; also for heating the same. Marye & Marye, Archs., Newport News.——Bids are asked until June 3 for erecting a 4-story brick, stone and terra cotta business block, 90 × 100 ft., for Winston & Co. P. Thornton Marye, Arch., Newport News.

OGLETHORPE, GA.—Bids are asked until June 15 for erecting a jail building for Macon county, after plans No. 1270 of the Pauly Jail Building & Mfg. Co., St. Louis, Mo. A. H. Perry, County Clk.

LOUISVILLE, KY.—Plans have been accepted for the new public school building to be erected at 2d and Hill Sts., to cost $43,478. Chas. D. Meyer, Arch.——D. X. Murphy & Bro. have been granted a permit for the remodeling of the building at 5th and Market Sts., owned by the Mutual Life Insurance Co., to cost $45,000.

BOWLING GREEN, O.—Bids are asked by the commissioners of Wood county for erecting a new county court house, 88 x 99 ft., to cost about $100,000.

CLEVELAND, O.—Bids are asked until June 10 for erecting an 18-room brick school building at Harman St. and Woodland Ave. H. Q. Sargent, School Director.

ELWOOD, IND.—J. J. Wood, Elwood, is reported to have received the contract for erecting a new city building at $27,733. The other bidders were: Adam Herzog, Lafayette, Ind; Joshua Chew, Lafayette; J. F. Trautman, Logansport, Ind.; O'Brien & Diegal, Elwood; John L. Fatout, Indianapolis, Ind.; J. D. Babcock, Anderson, Ind.

BARTONVILLE, ILL.—Bids are asked by the commissioners of Peoria county until June 1 for erecting fifteen buildings for the county insane asylum, to cost about $200,000.

CHARLESTON, ILL.—Alexander Briggs, Charleston, was awarded the contract May 18, for erecting the new brick high school building, at $31,827. Work is to be completed within 120 days.

CHICAGO, ILL.—Dr. J. Ramsey Flood has been granted a building permit to erect four 4-story brick apartment buildings at 6200 to 6206 Madison Ave., and 1338 to 1346 East 62d St., to cost $90,000.——D. H. Burnham & Co., Chicago, are preparing plans for the new 10-story office building to be erected at Clark and Adams Sts. for Marshall Field, to cost about $700,000.

APPLETON, WIS.—The Hackworthy Construction Co., Appleton, has been awarded the contract for the masonry work on the new city hall and library building, to cost $16,283; and Eager & Beske, Appleton, for the carpentry work, at $9,130.

FAIRMONT, MINN.—Bids are asked until June 10 for erecting an 8-room brick and stone high school building at Fairmont. Malcolm Aldrich, Secy. Bd. of Education; W. T. Towner, Arch., Germania Life Bldg., St. Paul, Minn.

WILLISTON, N. DAK.—Bids are asked until June 14 for erecting a court house in this town for Williston county. H. V. Smith, County Audr.; Bell & Kent, Archs., Helena, Mont.

CENTRAL CITY, COLO.—The following bids were received by the commissioners of Gilpin county May 17 for the erection of the new court house: H. J. Sears, $22,300; J. R. Quigley & Co., $23,000; Lamont & Ballard, $21,757; Davies & Vaughan, $22,046.25; J. C. Hannigan, $20,965; Sears & Bate, $22,680; W. H. Buckner, $26,110. The bidders are all of this city except W. H. Buckner, of Black Hawk, Colo. The board adjourned without awarding contract.

DENVER, COLO.—Plans have been accepted for the new Antlers Hotel building to be erected in this city. Varian & Sterner, Archs., Denver.

BRADY, TEX.—Bids are asked until June 13 for erecting a new court house for McCulloch county at Brady. H. P. Jordan, County Clk.

PULLMAN, WASH.—Bids are asked until June 5 for the construction of Science Hall and Ferry Hall on the grounds of the Agricultural College and School of Science at Pullman. E. H. Bryan, Pres., Pullman; G. W. Bullard, Arch., Tacoma, Wash.

CHEMAWA, ORE.—Bids are asked by the office of Indian Affairs, Washington, D. C., until June 28 for remodeling the present school building into a dining hall and kitchen. Thos. W. Potter, Supt., Chemawa.

CORVALLIS, ORE.—Bids are asked until June 6 for installing a heating plant for the State Agricultural College at Corvallis. W. E. Yates, Secy. of Bd. of Regents, Corvallis; Edgar M. Lazarus, Arch., 665 Worcester Block, Portland, Ore.

AUBURN, CAL.—Plans and specifications are asked until June 6 for constructing a hospital here for Placer county, to cost $15,000. J. B. Landis, Clk.

STANFORD UNIVERSITY, CAL.—J. D. McGillivray, San Francisco, Cal., is reported to have been awarded the contract for erecting the new chapel for Stanford University, to cost about $200,000. The tower will be 160 ft. in height.

PHOENIX, ARIZ.—Bids are asked by the Office of Indian Affairs, Washington, D. C., until June 5 for constructing an addition to the boys' dormitory at the Phoenix Indian School. S. M. McGowan, Supt., Phoenix.

TORONTO, ONT.—Bids are asked until May 25 for furniture and fittings for the new municipal building. John Shaw, Mayor; E. J. Lennox, Arch., King and Yonge Sts.

DAWSON, N. W. TER.—Press reports state that a fire in this city in the Yukon district, on April 21, destroyed the greater part of the business portion of the place, causing a loss of about $1,000,000.

## WATER-WORKS.

WATERVILLE, ME.—Our correspondent informs us that the trustees of Kennebec Water District have filed a bill in equity against Waterville and Fairfield, the Waterville Water Co., the Maine Water Co., the Portland Trust Co. and the Maine Trust & Banking Co., with the clerk of courts at Augusta, stating that they are duly authorized by charter to acquire the works, property, etc., now held by the Maine Water Co. The trustees and the water company have failed to agree upon terms, therefore the petition to the court, praying for the appointment of appraisers. It is charged that the water furnished by the Maine Water Co. is so polluted and unwholesome as to be utterly unfit for domestic use, and that the company's rates are excessive.

MILTON, N. H.—Arthur W. Dudley, Manchester, N. H., has made surveys and recommendations for works to cost about $20,000. About 25 hydrants and 3½ miles of pipe will be required.

REVERE, MASS.—A committee has been appointed to consider the question of the town buying the works of the Revere Water Co. Simon J. Nevins, A. B. Curtis and Jno. B. Seward are on the committee.

SPENCER, MASS.—The Walsh Boiler & Construction Co., Springfield, Mass., has been awarded the contract for a stand-pipe at $3,945. Other bids were as follows: R. F. Hawkins Iron & Bridge Co., Springfield, Mass., $5,000; Walsh Steam Boiler Co., Holyoke, Mass., $4,499; E. Hodge & Co., East Boston, Mass., $5,123; Davis & Farnham, Waltham, Mass., $4,700. The stand-pipe will be circular, 39 ft. high and 40 ft. in diameter. The work of putting in a stone-work foundation will be given out within a few days by the commissioners. Specifications call for a steel tank, with the bottom ⅜-in. thick; first 5 ft. of height, 7-16-in. thick; next 5 ft., ⅜-in.; next 10 ft., 5-16-in.; top 19 ft., ¼-in. thick. N. E. Craig, Engr.

NIANTIC, CONN.—It is proposed to secure a new water supply for National Guard camp at this place. Gen. Russel Frost, Commanding National Guard, Hartford.

ALBANY, N. Y.—Bids are asked until June 6 for furnishing 380 gross tons of cast-iron water pipe, and 18,000 lbs. of special castings. Geo. I. Bailey, Supt. Water-Wks.

ATTICA, N. Y.—The question of securing a better water supply is being considered.

FULTON, N. Y.—This place voted May 16 against purchasing the works of the Fulton Water Co. The town has an appropriation of $115,000, which was voted for last September, with which to build new works. W. R. Hillick, Cy. Clk.; F. A. Gage, Pres., Water Comrs.

NEWARK, N. Y.—The Newark Water-Works Co., of this vilage, which went into the hands of a receiver a few years ago, and was purchased by F. C. Street for some capitalists, has been re-incorporated under the name of the City Water-Works Co., with a capital of $80,000. Directors, C. F. Street, Wm. B. Hord, Victor Cumberton, and others of New York.

NEW YORK, N.Y.—Eugene Lentilhon, 11 Broadway, has been awarded the contract at $378,692, for the removal of the 42d St. reservoir, and for building the foundation for the new library building. The itemized bids were given in our issue of May 4.

NORTH ELBA, N. Y.—The North Elba Water-Works Co., of Lake Placid, has been incorporated with a capital stock of $15,000, by Geo. A. Stevens, Henry C. Stevens, and M. P. Flanders, Lake Placid, N. Y.——G. A. Stevens, Secy and Treas., writes us that the works are already built.

TONAWANDA, N. Y.—F. E. Chase, Engr., Water Dept., writes us that the trustees have taken no action as yet in regard to a new pumping engine for which $20,000 has been asked.

WHITESBORO, N.Y.—We are informed that the Whitestown Water Co. has secured the necessary franchises and has let the contracts for building the works. The construction of the pumping plant will soon be begun. W. G. Stone, Engr., Herald Bldg., Utica, N. Y.

CONNEAUTVILLE, PA.—It is reported that Otis B. White, who had the contract to build works to cost about $10,000, has refused to complete the work.

GIRARDVILLE, PA.—J. G. Johnson, of the Oak Grove Water Co., has offered to supply this place with water for 20 years at 10 cts. a 1,000 gallons.

GIRARD, PA.—C. J. Reeder, Pres. Council, writes us that an election was called for May 23 to vote on the question of issuing $23,000 in bonds for combined works and an electric plant. J. F. Witmer, Engr., Ellicott Block, Buffalo, N. Y.

McCONNELLSBURG, PA.—H. G. Frederick, Millersburg, Pa., has been awarded the contract for building works, according to reports.

PITTSBURG, PA.—Bids are asked until May 29 for constructing a gate-house at Highland Reservoir, No. 2. E. M. Bigelow, Dir. Dept. Pub. Wks.

BRIDGEPORT, W. VA.—It is reported that this place proposes to build works.

KEYSTONE, W. VA.—This place is to build works at once to cost $2,500, according to reports.

GREENSBORO, N. C.—An election will be held July 18 to vote on the question of issuing $100,000 in bonds for city works.

ROCKY MOUNT, N. C.—Bids are asked until June 6 for the purchase of $40,000 of 4% 20-year bonds for the proposed works. T. T. Thorne, Cy. Clk.

BIRMINGHAM, ALA.—W. J. Milner, Supt. Birmingham Water-Works Co., writes us that the proposed Pratt City and Ensley water main extensions have not yet assumed definite shape.

MONTGOMERY, ALA.—Bids are asked until June 5 for enlarging and extending the air-lift pumping plant, as stated in our advertising columns. Geo. A. Ellis, Consult. Engr.; R. H. Sommerville, Cy. Treas.

CORINTH, MISS.—I. W. Taylor, Pres. Corinth Water-Works Co., writes us that the company has been granted a 25-year franchise. It desires to correspond with parties who wish to purchase the bonds at a low rate of interest.

KNOXVILLE, TENN.—J. Allen Smith & Co. have been granted permission to lay water mains in certain streets for the use of the company.

NEW HAVEN, KY.—The question of building works to cost $4,000 is being considered.

VERSAILLES, KY.—Edward Gunter, Wilkesbarre, Pa., representing a syndicate, has applied for a franchise for works, as more fully noted under Electric Light and Power.

CLEVELAND, O.—Bids are asked until June 16 for furnishing 100 tons of pig lead. W. P. Rice, Dir. Pub. Wks.

EAST LIVERPOOL, O.—Jno. A. George, Cy. Engr., writes us that the contract for furnishing the materials and for laying about a mile of 12-in. cast-iron water pipe was let May 16 to H. D. Shannon, Oroville, O., at $8,112.

BLOOMFIELD, IND.—L. G. Forbes, Clk., writes us that plans for works are not yet adopted nor construction decided upon. Population, 2,000. Geo. C. Morgan, Engr., Chicago.

EVANSVILLE, IND.—The Continental Filter Co., New York, has offered to put in a filter plant on trial for one year. Local papers state that it will cost about $75,000, and will furnish 10,000,000 gallons of water.

HARTFORD, MICH.—Bids are asked by the village board until June 15 for constructing works to cost $12,000.

MANISTEE, MICH.—The council has voted to purchase the works of the Manistee Water Co. for $200,000, the appropriation having been legalized by the legislature.

PAW PAW, MICH.—L. C. Colburn, Civil Engr., writes us that the council on May 14 ordered an extension of the mains at a cost of $2,500. The material has not yet been purchased. Wm. Mason, Cy. Clk.

WEST BAY CITY, MICH.—Local papers state that bids may soon be asked for constructing the new works. J. D. Cook, Consult. Engr., Toledo, O., and City Engineer Bloomshield are preparing the plans. Address Alex. Zagelmeyer.

CHICAGO, ILL.—Bids are asked until May 29 for furnishing and delivering the following cast-iron water pipe: 500 pieces of 4-in., 12,000 pieces of 6-in., 8,000 pieces of 8-in., 3,000 pieces of 12-in., 2,000 pieces of 16-in., and 1,000 pieces of 24-in. L. E. McGann, Comr. Pub. Wks.

GLENCOE, ILL.—Bids are asked until June 6 for grading, draining and lowering water mains for a subway under the C. & N. W. Ry. at Glencoe, as described in our advertising columns. F. A. Windes, Engr., Winnetka, Ill.; G. D. Hall, Clk.

GALESVILLE, WIS.—The Western Engineering & Construction Co., Chicago, is reported to have been awarded the contract for building works at $13,500.

LA CROSSE, WIS.—The council has under consideration an ordinance for the adoption of water meters. Councilmen James, Chn. Com., and Schultze may be addressed.

PORTAGE, WIS.—The council has voted to annul the franchise of the Portage City Water-Works Co., according to reports.

SHEBOYGAN, WIS.—Alderman Theo. Dieckmann writes us that the city has obtained legislative authority to either build or purchase works. An election to vote on the question of issuing the necessary bonds will probably soon be held.

REMSEN, IA.—It is reported that the council will improve the works this season.

VALLEY JUNCTION, IA.—The Seckner Contracting Co., The Rookery, Chicago, has offered to build works and a light plant for $15,000.

MORTON, MINN.—Bids are asked until June 19 for the purchase of $7,000 of 5% bonds for building the proposed works. President Welsh, Councilmen F. W. Penhall and J. H. McGowan are on the committee. W. W. McGowan, Recdr.

STARBUCK, MINN.—This place is reported to have voted May 8 to issue $4,500 in bonds for works and an electric plant.

TYLER, MINN.—Bids are asked until June 6 for constructing works to cost $5,000. C. F. Loweth, Engr., 94 E. 4th St., St. Paul, Minn.; W. J. Huddleston, Recdr.

ARKANSAS CITY, KAN.—Councilman Geo. L. Brown, writes us that the city is offering to sell $95,000 5% 20-year bonds for the purchase of the works. This will be the final payment, the city having already paid $65,000. The plant is in good repair. Population, 7,500.

YATES CENTER, KAN.—The Yates Center Gas & Water Co. has been incorporated, with a capital stock of $2,500, by State Senator G. H. Lamb and R. H. Trueblood.

WEST POINT, NEB.—Andrew Rosewater, Bee Bldg., Omaha, Neb., is reported as preparing plans for a new reservoir, etc., for the works.

LAKE PRESTON, S. DAK.—The council, it is reported, is arranging for the construction of works to cost about $5,000.

MAYVILLE, N. DAK.—W. I. Gray & Co., Sykes Bldg., Minneapolis, Minn., have been awarded the contract for building works and an electric plant to cost about $21,400.

RED LODGE, MONT.—Wm. Larkin, Mayor, writes us that plans for works will be prepared in a short time. There will be wanted 4 miles of pipe, 5 hydrants, etc., and the council would like to correspond with manufacturers. Population, 2,500.

WACO, TEX.—It is reported that the Bell Water Co. has closed a deal by which that company acquires the Waco Artesian Watel Co.'s plant for which it paid $100,000. The works will be run separately, one for domestic consumers and the other for sprinkling and fighting fires.

GRAND JUNCTION, COLO.—W. P. Ela, Mayor, writes us that the city has $65,000 to build works with. There will be wanted 12 miles of pipe, a stand-pipe or reservoir, pump, etc. The water will have to be filtered. Bids for the construction will be asked at once. The water supply will be secured from either the Grand River or Gunnison River. Population, 5,000. C. P. Allen, Engr., Denver, Colo.

PAGOSA SPRINGS, COLO.—The Arboles Land & Water Co. has been incorporated to do business in Archuleta county; incorporators, C. B. Weeks, J. P. Wilcox, and A. H. Northrup, of Denver; capital stock, $20,000.

EDMUNDS, WASH.—It is proposed to issue $6,200 in bonds for works, according to reports.

REPUBLIC, WASH.—The question of building works and an electric plant is being considered by Patrick Clark, C. P. Robbins and L. H. Long. The water and power will be secured from Trout Creek and San Poil River.

WALLA WALLA, WASH.—E. S. Clark, Cy. Surv., writes us that the council passed the bonding ordinance for buying the works of the Walla Walla Water Co. on May 16. An election will be held June 20 to vote on the question of issuing $133,000 of 5% bonds, and for the purchase of the works for $250,000. The cost above the $133,000 is to be raised by special bond mortgage upon the works.

PENDLETON, ORE.—Bids are asked until June 14 for the purchase of $150,000 of 5% bonds for refunding outstanding water bonds, for extending the works, etc. J. E. Beam, Recdr.

LOS ANGELES, CAL.—The park board proposes to build works in Elysian Park at a cost of about $25,000.——It is stated that the board of arbitrators appointed to determine the value of the works of the Los Angeles City Water Co., has completed its labors and filed its report. The value of the plant as fixed in the report is $1,183,591. The water company's attorneys have given notice that they will not abide by the decision of the board and that they will fight the matter in the courts.

SACRAMENTO, CAL.—J. S. Mitchell, 956 12th St., Oakland, Cal., has submitted a proposition to furnish this city with a new water supply from the Cosumnes River for $525,000.

SAN JOSE, CAL.—The West Coast Water Co. has been incorporated with a capital stock of $1,000,000, by E. W. Clayton, W. L. Pieper and E. C. Flag.

ROCK ISLAND, QUE.—It is stated that the International Water-Works Co. will build an auxiliary reservoir on the Upston Farm.

ALMONTE, ONT.—L. Coueter, Clk., writes us that nothing definite has been done towards building works.

PORT COLBURN, ONT.—Frank D. Noble, Clk., writes us that this city wants to secure catalogues and prices of water meters.

OTTAWA, ONT.—Local papers state that the following bids were received by the committee May 16 for furnishing new pumping machinery, as advertised in Engineering News, April 20; John Galt, Cy. Engr.: Chaudiere Machine & Foundry Co., triplex, $37,630; 2 duplex, $36,650; water wheel, $9,310. H. B. Merrill for Henry R. Worthington, New York, 2 wheels, $7,475; 2 duplex 7-million pumps, $23,625; 7-million duplex pumps, $9,875; 2 triplex 10-million, $33,500; triplex wheels, $7,300. Jenckes Machine Co., Sherbrooke, Que., 2 triplex wheels, $3,300. Ker Engine Co., Walkerville, Ont., 1 duplex wheel, $26,385; 2 duplex wheels, $32,905. R. D. Wood & Co., Philadelphia, Pa., 1 10-million, $53,000; 2 5-million, $44,300; 3 7-million, $39,400; 4 14-million, $67,460. The Darty Co., Toronto, 2 pairs duplex wheels, $32,310; 2 pairs duplex wheels, $36,430; 2 pairs triplex wheels $48,450; 2 pairs triplex, $53,790. The Holly Mfg. Co., Lockport, N. Y., 2 duplex pumps, $23,729. Stilwell-Bierce & Smith-Vaile Co., Dayton, O., 2 duplex pumps, $36,000.

**RAT PORTAGE, ONT.—E. D. Tweedie writes us that $75,000 additional has been voted to complete the works, the construction of which was begun last year. The work is being done by day labor. About all the material is on hand and no bids for further work will be asked.**

WINNIPEG, MAN.—Bids are asked until July 3 for furnishing and installing a water softening plant. (Postponement from June 5.) The quantity of water to be softened is 2,400,000 gallons a day. A service reservoir of 300,000 gallons must be built by the contractor. The work is to be completed by Feb. 1, 1900. H. N. Ruttan, Cy. Engr.; C. J. Brown, Cy. Clk.

NANAIMO, B. C.—Col. T. H. Tracy, of Victoria, B. C., has submitted a report on the proposed works and a sewerage system.

NELSON, B. C.—We are informed that an election will be held May 29 to vote on the question of issuing $30,000 in bonds for extending the works. It is proposed to lay a 14-in. rivetted pipe, 10,000 ft. long, to bring water by gravity from Cottonwood Creek to the present distributing reservoir, which, with diverting dams, valves, etc., is estimated to cost about $25,000. The present distribution system is being extended at a cost of $5,000.

NEW WESTMINSTER, B. C.—F. R. Glover, Cy. Clk., writes us that the city has in contemplation the construction of a new reservoir, at a lower level than the present one. It is not likely, however, that it will be built this year.

ROSSLAND, B. C.—An election was held May 22 to vote on the question of issuing $150,000 in bonds for works and an electric plant. H. B. Smith, Engr.

HONOLULU, H. I.—The Hawaiian government is considering the question of constructing a water filtration plant in this city. Rudolph Hering, Engr., 100 William St., New York.

EAST LONDON, CAPE COLONY, S. AFRICA.—This city is about to expend nearly $550,000 for works. The supply will be drawn from the Buffalo River. Steps are being taken for the necessary surveys, and the works will be proceeded with as soon as possible. In the meantime a temporary water supply is to be provided for the maintenance of a proper supply of water until the main scheme is completed.

## IRRIGATION.

GREELEY, COLO.—Reports state that Sanborn Warner has filed plans for a reservoir and ditch system with the state engineer; the reservoir will have a capacity of 3,000,000 cu. ft.

WORMSER CITY, MONT.—Bids are asked until June 1 for the construction of two irrigation canal systems, one upon the Big Timber Creek, in Sweet Grass county, the other upon the Boulder River, in Sweet Grass and Park counties, as stated in our advertising columns. The specifications are on file at the office of Engineering News, St. Paul Bldg., New York, and Monadnock Bldg., Chicago. A. Wormser, Pres. Holland Irrigation Canal Co.

NEW COMPANIES.—Columbia Land & Water Co., Covina, Cal.; $60,000; A. M. Seeley, F. M. Chapman, R. A. Meredith, of Covina.

Iowa Irrigation & Improvement Co., Lewellen, Neb.; $4,000; A. Candy, J. C. Dayley, A. T. Ramsey, of Lewellen.

## SEWERAGE.

OLDTOWN, ME.—The council has voted to spend $1,500 for new sewers. J. W. Sewall, Cy. Engr.

NEWMARKET, N. H.—We are informed that this place is to build a system.

ROCHESTER, N. H.—It is proposed to extend the system.

WATERBURY, VT.—The town has instructed the trustees to employ an engineer to make surveys for a system. President Moody and Clerk Colby may be addressed.

FRANKLIN, MASS.—John W. Ellis & Son, Woonsocket, R. I., are reported to have prepared plans for a system.

LYNN, MASS.—The following bids were received by the drainage committee May 16 for constructing the north main sewer: Thomas Hurley, $10,164; John Sheehan & Co., $10,407; F. J. Cushing & Co., $9,139; F. D. Mayo, $8,623 (accepted).

WESTBORO, MASS.—J. J. Van Valkenburg, South Framingham, Mass., has submitted a report and estimates for the disposition of the ground water in the main sewer and for new sewage disposal beds. Estimated cost, $23,-$724. M. G. McCarty, F. V. Bartlett and H. W. Kimball compose the committee.

BRIDGEPORT, CONN.—The Pierce Mfg. Co. has been awarded the contract for constructing trunk sewers in Stratford Ave., Olive and Norman Sts., at $15,219. The lowest bid was received from P. H. Harrison & Sons, New York.

ALBANY, N. Y.—Bids are asked until June 5 for constructing sewers and paving in two streets. T. J. Lanahan, Clk. Bd. Contract.

AUBURN, N. Y.—It is proposed to construct a new sewer in the 9th ward to be 5,788 ft. long.

DEPEW, N. Y.—This place voted May 16 to issue $97,-000 in bonds for lateral sewers, according to reports.

NEW ROCHELLE, N. Y.—The village trustees are being urged to build a system.

WHITESTONE (L. I.), N. Y.—The board of public improvements has decided to build a sewer in 21st St., at a cost of $4,200.

JERSEY CITY, N. J.—Bids are asked until May 31 for constructing 490 ft. of 54-in., 1,080 ft. of 36-in., 1,253 ft. of 30-in. and 550 ft. of 24-in. brick sewer, etc. Geo. T. Bouton, Clk. Bd. Water Comrs.

NEWARK, N. J.—Bids are asked until 3.30 p. m., May 25, for constructing about 15,000 ft. of pipe sewers. J. C. Mundy, Gen. Supt. of Works.

SUMMIT, N. J.—The council has voted to appoint a committee to investigate the question of joining in the construction of the proposed main sewer to tidewater, which will be built by the Oranges, Milburn, etc. Address Councilman Ruford Franklin.

TRENTON, N. J.—Bids are asked until June 6 for constructing a sewer in Cooper St. C. E. Murray, Cy. Clk.

LEBANON, PA.—Councilman M. B. Gerberich writes us that a bill providing for the employment of an engineer to prepare plans, specifications, etc., for a system has been passed by the council.

NEW BRIGHTON, PA.—Bids are asked until June 8 for furnishing the materials and for constructing the proposed system for this city, as described in our advertising columns. L. E. Chapin, Consult. Engr., Canton, O.; F. C. Reader, Secy.

SCRANTON, PA.—Local papers state that $3,000 is being raised by popular subscription to add to the bid of Dunn Bros., which was $33,000, for completing the construction of the South Scranton sewer. S. S. Spruks, Chn. Com.

SHERIDAN, PA.—Jas. B. Smith, Borough Engr., informs us that the following bids were received May 19 for constructing the proposed system:

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| Sheets & Fishburn, Pittsburg (accepted) | $14,284 |
| Jas. McQuade, 3535 Fifth Ave., Pittsburg | 15,684 |
| Keeling & Ridge, Miltonberger St., Pittsburg | 16,164 |
| Cronin & O'Herron, West Carson St., Pittsburg | 14,992 |
| Ott Bros., Pittsburg, Pa. | 16,708 |
| Angelo Pondolpho, New Kensington, Pa. | 16,885 |
| C. L. Harrold, Beaver Falls, Pa. | 17,086 |
| Wm. H. Roberts, Carnegie, Pa. | 14,809 |
| Edward H. Post, Wilkes-Barre, Pa. | 15,952 |

——The soil is partly rock, but in most cases it is shale; average cut, about 11 ft.; grading is about a quarter shale rock. The contract for grading was let to Edward H. Post at 23 cts. a cu. yd. Other bids for grading ranged from 24½ cts. to 45 cts. a yd.

WILKES-BARRE, PA.—W. V. Ingham, Cy. Engr., writes us that it is proposed to build 1½ miles of 24-in. pipe sewers at a cost of $20,000; average cut, 8½ ft.; and a mile of 10-in. pipe sewer to cost $5,500; average cut, 8 ft.

GREENSBORO, N. C.—An election will be held July 18 to vote on the question of issuing $65,000 in bonds for a system.

TYBEE ISLAND, GA.—Jno. Simpson, Deputy Q.-M. Gen., U. S. A., Atlanta, writes us that the following bids were received May 16 for constructing a system at Tybee Island; all bidders of Savannah, Ga.: McKenna & Welsh, $3,100; J. W. Wiggin, $3,530; T. J. O'Brien, $3,475.

CORINTH, MISS.—I. W. Taylor, Pres. Corinth Water-Works Co., writes us that the company has been granted a 25-year franchise for a system and water-works. The company wishes to correspond with investors who will buy the bonds at a low rate of interest.

GLENVILLE, O.—Bids are asked until June 15 for furnishing the materials and for constructing certain sewers. I. C. Farley, Village Clk.

OBERLIN, O.—Bids are asked until June 6 for constructing about 3,000 ft. of 8 and 6-in. pipe sewer. A. B. Spear, Clk.; W. B. Gerrish, Engr.

TOLEDO, O.—Bids are asked until June 4 for constructing a 60-in. brick sewer in Maumee Ave. and for a 24-in. brick and 15-in. pipe sewer in other streets. W. O. Holst, Cy. Clk.

NAPPANEE, IND.—It is reported that this place will build a system this summer.

PONTIAC, MICH.—Bids are asked until May 29 for constructing 3,785 ft. of 8-in. lateral pipe sewers, as stated in our advertising columns. Wm. J. Fisher, Cy. Engr.

CHICAGO, ILL.—The finance committee has recommended the construction of larger sewers in the sections of the city south of 75th St.; estimated cost, $250,000.

GLENCOE, ILL.—Bids are asked until June 6 for grading, draining, etc., for a subway, as stated in our advertising columns. F. A. Windes, Engr.; G. D. Hall, Clk.

CLINTON, IA.—Bids are asked until 8 p. m., May 26, for constructing about 2,000 ft. of 15 to 10-in. pipe sewers. W. E. Russell, Cy. Clk.

MONTICELLO, MINN.—The council, it is stated, will extend the system.

ST. PAUL, MINN.—The following bids were received by the board of public works May 15 for constructing certain sewers: Hamline system, Patrick Doherty, $42,973; Kirkland & Deeks, $46,100; John Lindquist, $49,300; Preston & Keigher, $44,690. Sewers on Cherokee and Smith Aves., Patrick Doherty, $13,652; P. J. Ryan, $15,690; John Lindquist, $15,400; Anderson & Johnson, $17,207; Preston & Keigher, $16,300.

STEVENS POINT, WIS.—Bids are asked until June 1 for constructing 4,386 ft. of main sewer, 122 Y-branches and 18 manholes. A. F. Wyatt, Cy. Clk.

DEADWOOD, S. DAK.—A company will be organized to build a system, according to reports.

BROOKFIELD, MO.—D. F. Howard, Cy. Clk., writes us that Hiram Phillips, Oriel Bldg., St. Louis, Mo., is preparing plans and specifications for a system.

ST. LOUIS, MO.—Bids are asked until June 6 for repairing and reconstructing certain sewers. R. E. McMath, Pres. Bd. Pub. Improvements.

WESTPORT, MO.—It is reported by local papers that the contract will soon be let by the Kansas City council for constructing a system for this city to cost about $60,-000. Henry A. Wise, Cy. Engr., Kansas City, Mo.

ST. LOUIS, MO.—B. H. Colby, Sewer Comr., informs us that the following bids were received May 16 for constructing sewers in Rock Branch sewer district No. 7; all local bidders: Heman Construction Co., $47,077; Harry F. Heman, $44,065; Robt. Wyckoff, $44,286; Skrainka Construction Co., $40,983; McMahon & Cooney, $42,082; Hill-O'Meara Construction Co., $49,841; Hussey & McIntyre, $38,032 (accepted). There will be 2,000 cu. yds. of excavation; 20,240 ft. of 30 to 12-in. pipe sewers; 116,000 lbs. of cast iron; 8,000 lbs. of wrought iron; 50,000 ft. of lumber; 700 cu. yds. of brick masonry, and 720 cu. yds. of concrete.

GRAND JUNCTION, COLO.—W. P. Ela, Mayor, writes us that the city contemplates the construction of a system this summer. Population, 5,000.

SPOKANE, WASH.—The board of public works has been asked to construct certain sewers on the North Side at a cost of about $18,000.

WALLA WALLA, WASH.—E. S. Clark, Cy. Surv., writes us that an election will be held June 20 to vote on the question of adopting the plans for sewers. Estimated cost, $100,000.

NEVADA CITY, CAL.—Bids are asked until June 15 for the purchase of $28,000 of 5% bonds for a system. T. H. Carr, Clk. Bd. Trustees.

NEVADA CITY, CAL.—F. M. Miller has been engaged to prepare plans for the system.

SAN FRANCISCO, CAL.—Bids have been asked for constructing 3 x 5-ft. brick sewers, etc. J. A. Russell, Clk. Supervisors.

**SAN LUIS OBISPO, CAL.—The trustees have passed a resolution to issue $36,000 of 5% bonds for extending the system and for constructing a sewage disposal farm. J. A. Goodrich, Cy. Clk.**

**SAN RAFAEL, CAL.—An election will be held May 27 to vote on the question of building sewers in certain sewer districts. Address W. S. Davies and T. C. Berry.**

PROVO CITY, UTAH.—D. R. Beebe writes us that an ordinance is now before the council to adopt a sewer district.

MONTREAL, QUE.—The following bids were received by the road committee May 19 for constructing the main sewer in St. Denis Ward, connecting it with the sewage disposal farm: Pegnam & Doheny, $44,450; Rogers & Taylor, $43,500; Chartier & Robin, $53,300; Theophile Leclerc, $54,754; Nap. Laporte, $40,759; Hyacinthe Bourgouin, $56,503; McDonald & O'Connor, $55,842; Keekan & Heffernan, $39,900 (accepted), Perrault & Son, $45,239.

NELSON, B. C.—We are informed that an election will be held May 29 to vote on the question of issuing $15,000 in bonds for sewers. It is proposed to build 12,000 ft. of 12, 10 and 8-in. pipe sewers.

VICTORIA, B. C.—It is proposed to issue $100,000 in bonds for a system. The item in our issue last week under Vancouver, B. C., was probably a mistake.

CHARLOTTETOWN, P. E. I.—Bids are asked until June 1 for the purchase of $70,000 of 3½% 40-year sewer bonds. Bids for building the system were opened May 6. Henry Smith, Chn. Com.

## GARBAGE DISPOSAL—STREET CLEANING

WEST SPRINGFIELD, MASS.—Bids are asked until June 1 for collecting the garbage of the city for one year, according to reports. Address S. A. Bragg, of the Bd. of Health.

PITTSBURG, PA.—The Pittsburg Reduction Co., it is stated, will send a member of the company east to investigate garbage disposal systems.

INDIANAPOLIS, IND.—The plant of the Indianapolis Desiccating Co., at Seller's Farm, was destroyed by fire May 14, causing a loss of about $33,000; insurance, $12,-000. F. E. Bachman, Pres.

TORONTO, ONT.—Street Commissioner Jones has reported in favor of a flushing method for cleaning the asphalt streets.

HALIFAX, N. S.—Bids are asked until June 10 for furnishing a two-horse street sweeper, as stated in our advertising columns. F. W. W. Doane, Cy. Engr.

## STREETS AND ROADS

PORTSMOUTH, N. H.—Is is reported that a section of the ocean boulevard, from Fort Point, Newcastle, to the Massachusetts line, is to be constructed shortly.

BOSTON, MASS.—Reports state that a bill appropriating $1,500,000 for improvement of highways in Boston has been passed by the Senate.

BROCKTON, MASS.—It is stated that the committee on highways has voted to pave Montello St. at a cost of $35,000; also to macadamize parts of Court and Elm Sts.

CAMBRIDGE, MASS.—Reports state that the committee on roads and bridges has recommended that the sum of $50,965 be expended for paving in several streets.

NORTH ADAMS, MASS.—Bids are asked until June 1 for brick paving of about 7,500 sq. yds. on Union and State Sts. J. L. Temple, Comr. Pub. Wks.

WAKEFIELD, MASS.—Reports state that the town has voted to expend $5,000 for macadamizing on Main St.

ALBANY, N. Y.—Bids are asked until June 5 for brick paving on Morton St., from the west line of Clinton St. to the east line of Delaware Ave. Thomas J. Lanahan, Cy. Clk.——It is reported that the board of supervisors has appropriated $5,113 for the improvement of the Delaware turnpike.

BUFFALO, N. Y.—Bids are asked by the department of public works until June 1 for repaving on Michigan and Exchange Sts. R. G. Parsons, Secy.

BUFFALO, N. Y.—Bids are asked by the department of public works until June 7 for paving Carroll St. R. G. Parsons, Secy.

CANANDAIGUA, N. Y.—Bids are asked until June 13 for the construction of from 2,300 to 3,100 yds. of vitrified brick paving, as stated in our advertising columns. Geo. A. MacGrevey, Village Clk.

MOUNT VERNON, N. Y.—Bids are asked until June 6 for grading, macadamizing, curbing, and brick paving the gutters of North Tenth Ave. Wm. N. Hoyt, Cy. Clk.

NEW ROCHELLE, N. Y.—Bids are asked by the city until June 6 for $150,000 street improvement bonds.——It is reported that the board of aldermen has voted to purchase a steam roller.

ROCHESTER, N. Y.—It is proposed to pave with brick Frost Ave., from Plymouth to Kenwood Aves., at a cost of $53,000, and to construct asphalt pavement on Olean St., from Frost to Bronson Aves., at a cost of $9,600; also to construct Portland cement walks on Magnolia and Oriole Sts.

STONY POINT, N. Y.—The question of constructing a macadamized boulevard from Tuxedo to Stony Point is being considered, according to reports.

SYRACUSE, N. Y.—Reports state that City Engineer Stuart has been directed by the council to prepare plans and specifications for grading Dora St., from Midland Ave. to its eastern terminus; also that the plans are being revised for the paving of Noxon St. by the Syracuse, Lakeside & Baldwinsville Ry. Co.

TROY, N. Y.—Bids are asked until June 2 for vitrified brick paving in three streets. E. Ogden Ross, Secy., No. 21 City Hall.

ATLANTIC CITY, N. J.—Reports state that the board of freeholders has appropriated $40,000 to be used in building roads this year.

HACKENSACK, N. J.—Reports state that the contract for 28 miles of road work in Franklin township has been awarded to the Silk City Construction Co. of Paterson, at $75,000.

JERSEY CITY, N. J.—Bids are asked until May 31 for excavating, curbing, flagging, and about 1,629 sq. yds. of Belgian paving. Geo. T. Bouton, Cy. Clk.

**NEWARK, N. J.—Bids are asked by the board of street commissioners until 3.30 p. m., May 25, for about 17,700 sq. yds. of asphalt paving.**

PASSAIC, N. J.—Bids are asked until June 2 for macadamizing Milton Road, from Oak Ridge Depot to the bridge at Oak Ridge Dam, in West Milford township. Geo. W. Botbyl, Clk.

PATERSON, N. J.—Bids are asked by the Eastside Park committee until June 1 for laying about 1,100 ft. of 4-in. macadam on Central Ave.——It has been decided to readvertise for new bids for asphalt paving on Washington and Ellison Sts., and these bids will be opened at the next regular meeting. Wm. Ferguson, Cy. Engr.

PATERSON, N.J.—Bids are asked by the street commissioners until June 5 for asphalt paving in four streets.

RED BANK, N. J.—It is reported that the board of freeholders has voted to construct a stone road from Eatontown to Red Bank, to cost about $22,000.

WEEHAWKEN, N. J.—It is reported that the following bids for asphalt paving in Blum St., Union Hill, have been received: Mexican Asphalt Co., $17,297 (accepted); Barber Asphalt Co., $18,789; Alcatraz Asphalt Co., $19,556; Sicilian Asphalt Co., $19,030.

PHILADELPHIA, PA.—Bids are asked by the department of public works until June 2 for repaving streets with sheet asphaltum, vitrified brick, granite and slag blocks.

PHILADELPHIA, PA.—Reports state that plans are being prepared for paving in 200 streets to cost $2,000,000.—The following bids for constructing a stone road through the Borough of Merchantville have been received: J. R. Shanley, $12,900 (accepted); J. W. Ireland, $13,632; Dennis Roe, $13,100.

PITTSBURG, PA.—Bids are asked by the county commissioners until June 7 for the permanent improvement of five roads. W. E. Thompson, County Controller.

READING, PA.—Adam H. Leader, Mayor, writes us that it is proposed to spend $100,000 for asphalt paving.

SCOTTDALE, PA.—Bids are asked until June 8 for excavating, curbing and about 17,366 yds. of brick paving, as stated in our advertising columns. Isaac D. Evans, Borough Engr.

BALTIMORE, MD.—Reports state that the contract for paving Bush St. with Belgian blocks has been awarded to John Kuper at $15,000.

DANVILLE, VA.—It is reported that the city has voted to issue $100,000 of 4% street improvement bonds.

PETERSBURG, VA.—Bids are asked by the street committee until May 29 for laying between 8,000 and 10,000 sq. yds. of cobblestone pavement.

NEW ORLEANS, LA.—Bids are asked until May 29 for paving with asphalt Rampart St., from St. Louis to Esplanade St. W. S. Douglass, Comptroller.

DANDRIDGE, TENN.—Reports state that an election will be held June 1 to discuss the propositin of issuing $100,000 bonds for building pike roads.

ASHLAND, O.—Bids are asked until June 19 for furnishing the material and for improving Second St., from Orange to Cottage St. E. B. Westover, Village Clk.

BOWLING GREEN, O.—Bids are asked until May 29 for macadamizing a road in Liberty township. W. J. Digby, Town Clk.

COLUMBUS, O.—Bids are asked until May 31 for asphalt paving in Neil St., from Lafayette Alley to Mt. Vernon Ave. Lynn W. Neereamer, Clk.

DELTA, O.—It is reported that several miles of gravel road will be built.

GALION, O.—Bids are asked until May 31 for improving 1½ miles of road. J. D. Firstenberger, Chn.

GEORGETOWN, O.—Bids are asked by H. L. Jennings, County Audr., until June 9 for improving a free turnpike road, according to reports.

EAST LIVERPOOL, O.—Bids are asked until May 27 for grading about 30,000 cu. yds. and paving about 2,000 sq. yds. of streets. Jno. A. George, Cy. Engr.

ORRVILLE, O.—Bids are asked until June 2 for $30,000 of 5% paving bonds. Edward Wirth, Village Clk.

PORTSMOUTH, O.—Bids are asked until June 6 for the improvements of Gallia St. Ed. K. Walsh, Cy. Clk.

INDIANAPOLIS, IND.—Bids are asked by the department of public works until May 29 for paving with creosoted wooden blocks and asphalt in three streets and for paving with cement the sidewalks of ten streets.

MUNCIE, IND.—Bids are asked until June 5 for the improvement of Howard St. F. W. Clevenger, Cy. Clk.

ROCKVILLE, IND.—Bids are asked by the commissioners of Parke county until June 8 for the improvement of nine highways in Penn township.

ROCKVILLE, IND.—The following bids have been received by the county commissioners for constructing gravel roads: J. Johnson, Crawfordsville, Pitman Road, $4,125; John Green Road, $3,240; Marlard Mill and Jussup Road, $6,966; Adams and Orrpeck Road, $2,500; V. B. Nowling, Rockville, Rockville and Bridgeton Road, $9,025; T. J. Allen & Co., Rockville, W. B. Colling and Turnpike Road, $2,516.

TERRE HAUTE, IND.—Bids are asked until June 6 for the maintenance of 10,450 sq. yds. asphalt pavement on Seventh St. for a term of five years. Ralph H. Sparks, Cy. Engr.——The commissioners will hold an election June 15 to vote on the proposed $43,000 gravel roads in Sugar Creek township, according to reports.

WEST SHOALS, IND.—R. H. Franklin & Co. have submitted the only bid for 19,069 lin. ft. of macadam roads at $18,800.

ANN ARBOR, MICH.—Bids are asked until June 1 for 5,250 yds. of brick or asphalt paving, as stated in our advertising columns. J. E. Harkins, Clk.; Geo. F. Key, Cy. Engr.——Geo. F. Key, Cy. Engr., writes us that the following bids were received last week, all of Ann Arbor except last bidder: Hutzel & Co., $17,593 (awarded); J. M. Spalding, $21,524; Schneider Bros., $22,054; Muir & O'Sullivan, Port Huron, $22,625.

DETROIT, MICH.—Bids are asked by the board of public works until 10 a. m., May 26, for constructing about 13,000 sq. yds. with cedar blocks on five streets.

GRAND RAPIDS, MICH.—Bids are asked until 5 p. m., May 27, for the purchase of $200,000 street improvement bonds. I. F. Lamoreaux, Cy. Clk.

CHICAGO, ILL.—Reports state that the bids received May 18 for asphalt paving Diversey Boulevard, have been rejected and that new bids will be asked for; the lowest bid received was from Sackley & Peterson at $85,108.

MILWAUKEE, WIS.—Reports state that the commissioners of public works have recommended that a brick pavement be laid for eleven blocks on National Ave., to cost about $35,000.

CLINTON, IA.—Bids are asked until June 5 for grading about 6,000 yds. L. Rutenbeck, County Audr.

MINNEAPOLIS, MINN.—Reports state that the board has decided to expend $5,000 for additional macadamizing on Lyndale Ave.

OMAHA, NEB.—Bids are asked by the board of public works until 2 p. m., May 26, for paving with sheet asphalt, brick or stone, on two streets.

ST. THOMAS, ONT.—Bids are asked until May 25 for laying about 18,000 sq. yds. of brick paving. Jas. A. Bell, Cy. Engr.

WALKERTON, ONT.—Bids are asked until 4 p. m., May 26, for the construction of about 20,000 sq. ft. of granolithic sidewalks. W. S. Gould, Town Clk.

## MANUFACTURING PLANTS.

MILLINOCKETT, ME.—Reports state that E. T. Hartwell, Oldtown, Me., has the contract for the erection of the new office building for the Great Northern Paper Co., at Millinockett.

GLOUCESTER, MASS.—Reports state that Fred. C. Watson will prepare plans for a cold storage and ice-making plant to be erected for a New York syndicate at East Gloucester. The building will be of brick and steel, fireproof, with electric light and steam freight elevators; estimated cost, $275,000.

BUFFALO, N. Y.—Robt. Wolf, Philadelphia, has prepared plans for a brick brewery for the Schirket Brewing Co.; estimated cost, $30,000.

PEEKSKILL, N. Y.—Reports state that F. G. & G. T. Van Riper, of Long Island City, N. Y., have the contract for erecting the new plant for Fleischmann & Co. There will be 28 brick dwellings, requiring 28,000 cu. ft. of concrete foundation.

HARRISBURG, PA.—Reports state that W. J. Koch & Co., general commission merchants, will erect a large grain elevator and grist mill for milling specialties.

MONONGAHELA, PA.—The plant and office building of the Monongahela Window Glass Co. were destroyed by fire, May 16; reported loss to plant, $30,000.

PHILADELPHIA, PA.—Plans are being prepared for three buildings, covering an area of three acres, for the American Pulley Co., to be erected at 29th and Bristol Sts.; estimated cost, $250,000.

YORK, PA.—Reports state that the York Silk Co. will erect a mill in this city. L. S. Stoner, Pres.

BELTON, S. C.—Reports state that a cotton mill of 15,000 spindles will be erected in this city. Capt. E. A. Smyth, Pres. of the Pelzer Mills, is said to be at the head of the project.

COLUMBIA, S. C.—It is reported that the Olympia Cotton Mills will erect a mill of 104,000 spindles and 2,600 looms capacity.

FLORENCE, ALA.—Reports state that Cyrus W. Ashcraft, Pres. of the Florence Cotton Oil Mill Co., is interested in a new cotton mill to be erected in Florence, to cost $50,000.

TRION, GA.—Reports state that J. D. Hunt, Chattanooga, Tenn., has the contract for the erection of the new cotton mill for the Trion Mfg. Co.; estimated cost of building, $300,000.

MASSILLON, O.—Russell & Co., manufacturers of steam road rollers, etc., lost their warehouse, painting room and boiler house by fire; reported loss, $75,000; fully insured.

PORT CLINTON, O.—Reports state that T. L. Johnson, the street railway promoter of Detroit, Mich., contemplates erecting a steel plant in this city.

FORT DODGE, IA.—The Des Moines Mfg. & Supply Co. has the contract for the machinery for the new mill of the Fort Dodge Plaster Co. Proudfoot & Bird are preparing plans for the four buildings, which will comprise the plant.

EL PASO, TEX.—Reports state that a New York company will erect a smelting and ore refining plant; estimated cost, $500,000.

SAN JUAN, PORTO RICO.—Reports state that an ice and refrigerator plant of 30 tons capacity a day is to be erected here by the Hygeia Ice & Refrigerator Co. Ellison Crawford, New York; Edgar M. Johnson, of Hoadley, Lauterbach & Johnson, of New York, and Alfred M. Rau, of the Woodside Chemical Co., are said to be officers of the company.

## GAS PLANTS.

REVERE, MASS.—Reports state that the town has voted to establish a municipal gas plant.

LAKEWOOD, N. J.—It is reported that the Lakewood Gas Co. is to erect a gas plant here.

LOUISVILLE, KY.—It is reported that the Louisville Gas Co. is receiving bids for a new retort house and coke-handling apparatus; also on two systems of gas manufacture and coke handling known as the Coze system and the horizontal system; cost of improvements, $150,000.

TIFFIN, O.—Reports state that Kerlin Bros., of Toledo, have awarded a contract to Baxter & Young, of Detroit, for the construction of a $50,000 gas plant here, for the manufacture of fuel and illuminating gas.

RACINE, WIS.—It is stated that an application has been presented to the council for the establishment of a gas plant.

NELSON, B. C.—An election will be held May 29 to vote on the question of granting an exclusive franchise to the Economical Gas Construction Co., 269 Frost St., Toronto, Ont., for constructing and operating a plant. The same company is to put in a coke plant to cost not less than $100,000, work to begin not later than Aug. 1.

NEW COMPANIES.—Union Gas Co., San Francisco, Cal.; $200,000; I. J. Truman, Wm. McKinley, W. H. Barrows, of San Francisco.

National Oil Co., Camden, N. J.; $3,000,000, with $10,000 paid in; A. J. Bell, C. S. King, Maurice Barnett.

Western Acetylene Gas Co., Arbuckle, Cal.; $50,000; C. D. Stanton, H. H. Seaton, A. F. Shriver.

Standard Incandescent Light Co., Camden, N. J.; $100,000, with $18,000 paid in; A. H. Doughty, W. J. Moore, W. T. Linderman.

## MISCELLANEOUS CONTRACTS.

PARK WORK.—Banger, Me.—The park commission will ask for $4,000 for the improvement of Forest Ave. Park.

PARK WORK.—New York, N. Y.—Bids are asked by the department of parks, Arsenal, Central Park, until June 2, for the improvement of the city parks.

FIRE ENGINES.—Chicago, Ill.—Bids are asked until May 31 for furnishing four first size Metropolitan steam fire engines. D. J. Sweenie, Fire Marshal.

DREDGING.—Cleveland, O.—Bids are asked until June 9 for dredging in Cleveland Harbor, as stated in our advertising columns. Col. Jared A. Smith, U. S. Engrs.

DREDGING.—Tampa, Fla.—Bids are asked until June 15 for dredging in Charlotte Harbor, as stated in our advertising columns. Capt. Henry Jervey, U. S. Engrs.

JETTY.—Portland, Ore.—Bids are asked until July 25 for constructing jetty, etc., at Coos Bay, Ore., as stated in our advertising columns. Capt. Wm. W. Harts, U. S. Engrs.

BOAT LANDING.—South Boston, Mass.—Bids are asked by the park commissioners until 4 p. m., May 26, for building a boat landing and shelter on the strandway wharf.

JETTIES.—Portland, Ore. Bids are asked until July 25 for constructing jetties, etc., at Coquille River, Ore., as stated in our advertising columns. Capt. Wm. W. Harts, U. S. Engrs.

JETTY.—Portland, Ore.—Bids are asked until July 25 for constructing jetty, etc., at Sinslaw River, Ore., as stated in our advertising columns. Capt. Wm. W. Harts, U. S. Engrs.

BREAKWATER.—Chicago, Ill.—Bids are asked until June 22 for constructing breakwater, Calumet Harbor, Ill., as stated in our advertising columns. Maj. W. L. Marshall, U. S. Engrs.

REVETMENTS.—Koweenaw Point, Mich.—Bids are asked by United States engineers at Duluth until July 1 for building pile and timber revetments for ship canals across Koweenaw Point.

RIP-RAP.—Rock Island, Ill.—Bids are asked until June 21 for furnishing about 100,000 cu. yds. rip-rap rock and about 262,000 cu. yds. brush, as stated in our advertising columns. Capt. C. McD. Townsend, U. S. Engrs.

TELEPHONES.—New York, N. Y.—Bids are asked by the department of public charities, foot of East 26th St., until May 29 for overhauling, complete repair and maintenance of interior telephones belonging to the department of public charities.

PORT IMPROVEMENTS.—Montevideo, Uruguay.—It is reported by U. S. Minister Finch that the government will spend about $8,000,000 in harbor work and that bids are now being received.

CABLE.—Havana, Cuba.—Reports state that the Postal Telegraph Co. and the Commercial Cable Co., New York, N. Y., have decided to start the projected additional cable from Florida to Havana.

DREDGING.—Mamaroneck Harbor, N. Y.—Bids are asked until June 12 for dredging and excavation in Mamaroneck Harbor, as stated in our advertising columns. Maj. H. M. Adams, U. S. Engrs.

DREDGING.—Coxsackie, N. Y.—Bids are asked until June 22 for dredging in Hudson River, between Coxsackie and State Dam, at Troy, N. Y., as stated in our advertising columns. Col. J. W. Barlow, U. S. Engrs.

HARBOR WORK.—Chicago, Ill.—It is stated that plans are prepared for the improvement of the World's Fair basin, Jackson Park. Boat-houses will also be built. J. F. Foster, Supt. South Park Bd.; Jos. Donnersberger, Pres.

MAPS AND SURVEYS.—Mount Gilead, O.—Bids are asked by the county commissioners until June 7 for making the necessary maps and plans to enable the several district assessors to correctly reappraise all real estate in 1900.

PARK WORK.—Newark, N. J.—Bids are asked by the Essex County Park Commission, 800 Broad St., Newark, until May 31 for under-draining and grading the northern division of Branch Brook Park, Newark, as described in our advertising columns.

DOCK IMPROVEMENTS.—Brooklyn, N. Y.—Reports state that the Brooklyn Dock & Terminal Co. will spend about $1,500,000 in improving the 25th St. property. It has been decided to build warehouses, coal pockets, and to dredge and deepen the water front.

TUNNEL.—Chihuahua, Mexico.—Reports state that a company with a capital of $5,000,000 has been formed for the purpose of constructing a tunnel three miles long through the mountains near Chihuahua, under a group of mines. T. B. Kerlet, Santa Eulalia, Mex., may be able to give information.

REPAIRING DAMS.—Waterville, Me.—The Kennebec Water Power Co. has voted to act with the Kennebec Log Driving Co. in repairing dams and removing obstacles from the river. A. M. Kennison, Clk., Waterville; Directors, W. H. K. Abbott, Waterville; E. J. Lawrence, Fairfield, Me.; A. L. Smith, Madison, Me.

UNDERGROUND WIRES.—Washington, D. C.—Bids are asked by the commissioners until June 3 for furnishing underground telegraph and telephone cables and terminal and junction boxes and connections for the fire alarm and police telegraph and telephone service in the District of Columbia, as stated in our advertising columns.

MINING.—Russia.—A Franco-Russian company for the platinum industry has received from the Russian Government authorization to begin its activity in Russia. With its capital of 16,000,000 francs, it intends working the mines of platinum, gold and other metals which have been acquired in the Oural Province of Perm from the former proprietor, Viscount Proins-Vieira, as well as establishing a platinum refinery at Ekaterinberg.

## CONTRACT PRICES.

LOCK AND DAM.—Osage River, Mo.—Capt. H. M. Chittenden, U. S. Engr., Secy. Missouri River Comn., informs us that the following bids were received May 6, 1899, for constructing lock and dam No. 1, Brenneker Shoals, for the improvement of the Osage River, Mo.; contract was awarded James S. Pollard and Jos. D. Wallace, of Champaign, Ill.:

| Quantities. | | | J. V. Hoag, Jr., Allegheny City, Pa. | Pollard and Wallace, Champaign, Ill. |
|---|---|---|---|---|
| Excavation: Earth, wet | 20,000 | cu. yds. | $2.30 | $0.80 |
| Earth, dry | 5,000 | " " | 2.30 | .70 |
| Rock | 800 | " " | 2.30 | 1.00 |
| Stone paving | 800 | sq. yds. | 3.00 | 1.40 |
| Cement | 6,000 | bbls. | 3.50 | 2.95 |
| Mortar ready for use | 150 | cu. yds. | 3.00 | 5.00 |
| Concrete ready for use | 5,500 | " " | 3.00 | 4.50 |
| Iron framework | 332,000 | lbs. | .11 | 06½ |
| Iron castings | 18,000 | " | .07 | .15 |
| Piles | 30,000 | lin. ft. | .75 | .50 |
| 10-in. sheet piling | 24,000 | " " | .75 | .50 |
| Lumber: Floors, etc. | 180,000 | ft. B.M. | 60.00 | 46.00 |
| Sheathing | 110,000 | " " | 60.00 | 63.00 |
| Grillage | 135,000 | " " | 60.00 | 37.00 |
| Lock gates | 4 | each | 2119.75 | 1250.00 |
| Removing cofferdam | 680 | lin. ft. | 9.00 | 2.00 |
| Total | | | $218,069 | $142,465 |

SEWERS.—Derby, Conn.—J. W. Larkin, Cy. Clk., informs us that the following bids were received May 12 for constructing a sewerage system, as advertised in Engineering News; contract will probably be let May 17; the 50 ft. of cast-iron pipe is 24-in. in size:

Bids Received at Derby, Conn., May 12, 1899, for Constructing a Sewerage System.

| | Vitrified pipe | | | | | | | Catch- | Man- | | C.-I. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Bidder. | 24-in, 3,350 ft. | 20-in, 1,050 ft. | 18-in, 1,000 ft. | 15-in, 2,550 ft. | 12-in, 7,500 ft. | 9-in., 250 ft. | Rock, 500 c.yds. | b'sins, 25 each. | holes, 35 each. | Pl'nk, 1,000 ft. | pipe, 50 ft. | Total. |
| A. Brazos & Son, Middletown, Conn. | $1.77 | $1.32 | $1.05 | $0.92 | $0.68 | $0.50 | $2.95 | $96.00 | $34.00 | $22.00 | $4.00 | $21,224 |
| A. M. Banker, Gloversville, N.Y. | 2.50 | 1.30 | .90 | .80 | .40 | .35 | 5.00 | 70.00 | 35.00 | 30.00 | 3.00 | 21,538 |
| C. W. Blakeslee & Sons, New Haven | 2.10 | 1.68 | 1.45 | 1.41 | 1.25 | .85 | 2.90 | 27.00 | 37.00 | 30.00 | 5.30 | 30,538 |
| B. D. Pierce, Jr., Co., Bridgeport, Conn. | 1.74 | 1.34 | 1.25 | .85 | .65 | .40 | 4.00 | 125.00 | 25.00 | 18.50 | 3.50 | 21,824 |
| The H. Wales Lines Co., Meriden, Conn. | 2.06 | 1.67 | 1.00 | 1.00 | .76 | .65 | 3.00 | 165.00 | 36.25 | 30.00 | 8.00 | 25,391 |
| O'Neil & Co., Hartford, Conn. | 1.77 | 1.45 | 1.00 | .94 | .68 | .50 | 3.40 | 85.00 | 32.00 | 21.00 | 5.00 | 21,336 |
| Thos. F. Maher, New Haven, Conn. | 1.75 | 1.60 | 1.00 | .95 | .75 | .75 | 3.00 | 105.00 | 34.00 | 22.50 | 5.50 | 22,390 |
| Edward Tracy, Derby, Conn. | 1.87 | 1.40 | 1.20 | 1.08 | .90 | .75 | 3.00 | 114.00 | 32.00 | 20.00 | 6.00 | 24,416 |
| John A. Doolittle & Co., New Haven | 1.80 | 1.60 | 1.18 | 1.10 | .90 | .70 | 2.00 | 60.00 | 35.00 | 18.00 | 3.75 | 22,551 |
| **The Strauss Bros. Co., Wallingford, Conn.** | **1.55** | **1.06** | **.92** | **.81** | **.71** | **.64** | **2.90** | **98.00** | **22.50** | **16.00** | **2.50** | **19,604** |

**REPAIRING PIER.**—St. Joseph, Mich.—Capt. Charles Harding, U. S. Engr., Grand Rapids, Mich., received the following bids May 19, 1899, for repairing the government pier at this place; 1. being John M. Allmendinger, Benton Harbor, Mich.; 2. Nelson J. Gaylord, Ludington, Mich.; 3. Love & Clark, Muskegon, Mich.:

| | | | 1. | 2. | 3. |
|---|---|---|---|---|---|
| Removing old work | 819 | lin. ft. | $1.25 | $1.00 | $2.50 |
| White pine timber* | 67,164 | ft. B.M. | 5.00 | 4.00 | 5.00 |
| White pine plank* | 6,624 | " " | 4.00 | 3.00 | 4.00 |
| White oak piles in pl. | 6,970 | lin. ft. | .27 | .35 | .34 |
| Timber, in place | 13,868 | ft. B.M. | 32.00 | 38.00 | 38.00 |
| White pine timber | 185,367 | " " | 24.00 | 24.00 | 25.00 |
| Plank for sht piles | 191,646 | " " | 28.00 | 35.00 | 32.00 |
| For decking | 3,168 | " " | 20.00 | 20.00 | 20.00 |
| Drift bolts | 32,077 | lbs. | .025 | .0325 | .03 |
| Screw bolts | 6,532 | " | .035 | .0325 | .03 |
| Carriage bolts | 5,460 | " | .035 | .035 | .03 |
| Tie rods | 12,599 | " | .035 | .035 | .03 |
| Spikes | 859 | " | .03 | .035 | .03 |
| Stone | 300 | cords | 6.50 | 2.00 | 7.00 |
| Total | | | $17,228 | $17,811 | $19,963 |

*Secure in place; timber furnished by government.

**CANAL FEEDER.**—Chicago, Ill.—Maj. W. L. Marshall, U. S. Engr., received the following bids May 9, for constructing 13 miles of feeder of the Illinois & Mississippi Canal, south of Tampico, Ill.; the Geo. W. Jackson Construction Co., Chicago, submitted the lowest bid for miles 17 and 18:

Bids Received at Chicago, Ill., May 9, 1899, for Constructing Feeder; Illinois & Mississippi Canal.

| Bidder. | Earthwork, Miles 17 to 29, inclusive.<br>17, 18, 245,712 cu. yds. cts. | 19, 20, 241,823 cu. yds. cts. | 21, 22, 288,502 cu. yds. cts. | 23, 24, 372,263 cu. yds. cts. | 25, 26, 393,189 cu. yds. cts. | 27, 102,592 cu. yds. cts. | 28, 127,604 cu. yds. cts. | 29, 167,621 cu. yds. cts. | Total. |
|---|---|---|---|---|---|---|---|---|---|
| Callahan Const'n Co., Omaha, Neb. | 12.5 | 12.25 | 15.5 | 17.25 | 16.0 | 9.75 | 12.5 | 13.75 | $281,181 |
| John J. McCaughey, Summit, Ill. | 18.0 | 13.92 | 24.5 | 22.5 | 19.18 | 13.31 | 14.9 | 23.5 | 379,804 |
| Christie, Lowe & Heyworth, Chicago | 15.48 | 15.48 | 15.48 | 15.48 | 15.48 | 15.48 | 15.48 | 15.48 | *300,204 |
| T. W. Kinser & Sons, Terre Haute, Ind. | 11.85 | 11.85 | 27.0 | 33.0 | 27.0 | 19.0 | 19.0 | 17.0 | 436,909 |

*Based on award of entire work only.

**ASPHALT PAVING.**—Washington, D. C.—The district commissioners received the following bids May 20, 1899, for asphalt paving as advertised in Engineering News; A. being for 30,000 sq. yds. of 2½-in. surface, 2-in. binder, 6-in. hydraulic base; B. for 4,000 sq. yds. vitrified block on 6-in. hydraulic base; C. for 2,620 sq. yds. of granite block paving on Benning's road:

| | A. | B. | C. |
|---|---|---|---|
| Ayers Asphalt Paving Co., Zanesville, O. | $1.80 | $1.40 | $0.58 |
| Cranford Paving Co., Washington, D.C. | 1.78 | 1.38 | 1.30 |
| Barber Asphalt Paving Co., New York. | 1.79 | 1.40 | 1.35 |
| Southern Asphalt Paving Co., Baltimore | 1.795 | 1.47 | 1.44 |
| *Barber Asphalt Paving Co., New York | 1.69 | 1.40 | 1.35 |

*Bid conditional that all paving with asphalt, asphalt block or granite block as scheduled to be done during ensuing year be awarded at prices named and paved as sheet asphalt.

**RESERVOIR WORK.**—Clinton, Mass.—The following bids were received by the Metropolitan Water Board May 17 for excavating soil, part of Sec. 5, and excavating and refilling at westerly portion of North Dike, Clinton and Sterling, Wachusett reservoir:

Bids Received at Clinton, Mass., May 17, 1899, for Excavation, Etc., on the Wachusett Reservoir.

| Bidder. | Clearing and grubb'g, 100 acres. | Excavation, Soil, 225,000 cu.yds. | Excavation, Earth, 155,000 cu.yds. | Masonry, Rubble, 21 cu.yds. | Masonry, Split-stone, 22 cu.yds. | Dry paving, 61 cu.yds. | Furnishing and laying sewer pipe. For drain 4-in., 2,038 lin. ft. | For drain 8-in., 640 lin. ft. | For drain 10-in., 700 lin. ft. | For drain 12-in., 2,038 lin. ft. | Culvert, 12-in., 36 lin. ft. | Drain, 15-in., 1,768 lin. ft. | Culvert, 24-in., 56 lin. ft. | Manholes, 18 each. | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cenedella Bros., Milford, Mass. | $50.00 | $0.18 | $0.20 | $5.00 | $12.00 | $1.00 | $0.15 | $0.29 | $0.35 | $0.38 | $0.60 | $1.25 | $1.50 | $40.00 | $81,476 |
| Moulton & O'Mahoney, Boston | 40.00 | .22 | .16 | 6.00 | 14.00 | 3.00 | .25 | .30 | .65 | .70 | .75 | 1.00 | 1.20 | 25.00 | 83,812 |
| Newell & Snowling Const'n Co., Uxbridge | 50.00 | .21 | .19 | 6.00 | 12.00 | 4.00 | .19 | .35 | .41 | .46 | .40 | 1.60 | 1.78 | 35.00 | 87,743 |
| Long & Little, Leominster | 50.00 | .23 | .18 | 5.50 | 6.00 | 3.00 | .30 | .40 | .60 | .80 | .80 | 1.25 | 2.00 | 30.00 | 90,889 |
| Murphy Bros., Clinton | 67.00 | .27 | .18 | 4.00 | 10.00 | 3.00 | .20 | .85 | .85 | .90 | .60 | .90 | 1.00 | 30.00 | 101,427 |
| Busch Bros., Buffalo, N. Y. | 67.00 | .30¼ | .17¾ | 3.75 | 12.00 | 3.00 | .15 | .30 | .52 | .65 | .35 | 1.15 | 1.00 | 17.50 | 107,966 |
| Baker & Judson, Gloversville, N. Y. | 50.00 | .30 | .20 | 6.00 | 11.00 | 3.00 | .20 | .45 | .50 | .60 | .40 | 1.30 | 1.25 | 50.00 | 109,602 |
| H. P. Nawn and N. S. Brock, Boston | 75.00 | .31 | .23 | 7.00 | 10.00 | 3.00 | .22 | .30 | .34 | .39 | .40 | .75 | 1.20 | 40.00 | 117,251 |
| Rowe & Hall, Boston | 75.00 | .29 | .27 | 6.00 | 9.00 | 3.00 | .57 | .62 | .62 | .53 | .53 | .70 | 1.07 | 45.00 | 120,306 |
| N. Devine, Clinton, and N. McBride, Brighton | 60.00 | .27 | .29 | 6.00 | 8.00 | 3.00 | .70 | .85 | 1.00 | 1.25 | .50 | 1.80 | 2.00 | 40.00 | 121,436 |

**LAYING WATER PIPE.**—Pittsburg, Pa.—We are informed that the following bids were received April 7, 1899, for laying water pipe; all of Pittsburg, except Ott Bros., and Sloan & McIlvain, of Allegheny, Pa.:

| Bidder. | Laying water pipe. 4-in. | 6-in. | 8-in. | 12-in. |
|---|---|---|---|---|
| Cronin & O'Herron | $0.30 | $0.26 | $0.30 | $1.55 |
| James H. McQuade | .24 | .27 | .29 | 1.75 |
| Ott Bros. | .23 | .25 | .28 | .... |
| Sloan & McIlvain | .27 | .28 | .32 | 2.75 |
| Keeling & Ridge | .20 | .25 | .35 | .... |
| H. C. Howard | .37 | .37 | .37 | .... |
| Eugene Scanlon | .23 | .24 | .29 | .... |

**PAVING BLOCKS.**—Haverhill, Mass.—B. W. Davis, Mayor's Clerk, informs us that the following bids were received May 15, 1899, for furnishing paving blocks, etc., as advertised in Engineering News; contract awarded Thomas Lahey; A. T. Snow bid 27 cts. for 18-in. flagstone, and 29 cts. for 20-in.:

| Bidder. | Edgestones, 4,500 ft. | Flagstones, 2,000 ft. | Paving stone, 50,000; an M. Small. | Large. |
|---|---|---|---|---|
| Thos. Lahey, Haverhill | $0.34 | $0.30 | $35.00 | $45.00 |
| F. Bradbury, W. Franklin. | .34½ | .33 | 35.00 | 50.00 |
| A. T. Snow, Frankfort, Me. | .33 | .27-.29 | 43.00 | 46.00 |
| A.H. Wright & Son, Spgfield | .39⅛ | .39 | 38.50 | 48.50 |
| J. P. Gordon, Franklin, Me. | .38 | .36 | 35.00 | 38.50 |

**SEWERS.**—Quincy, Mass.—The following bids were received May 15 for constructing pipe sewers for section No. 9; E. W. Branch, Engr. Sewer Dept.:

Bids Received at Quincy, Mass., May 15, 1899, for Constructing Sewers.

| Quantities. | | William Cashman, Quincy. | Long & Little, South Braintree. | C. E. Trumbull & Co., Boston. | M. Russo & Co., Boston. | H. A. Hanscom & Co., Boston. | M. J. O'Hearn, Brookline. | F. L. Allen, Worcester. |
|---|---|---|---|---|---|---|---|---|
| Earth excavation, 0 to 8 ft. | 9,340 cu. yds. | $0.68 | $0.57 | $0.65 | $0.60 | $0.50 | $0.48 | $0.45 |
| " " 8 " 14 " | 2,570 " " | 1.00 | .85 | 1.20 | .90 | 1.20 | .90 | .85 |
| " " 14 " 20 " | 1,230 " " | 2.00 | 1.80 | 1.25 | 1.50 | 2.00 | 1.30 | 1.50 |
| " " below 20 ft. | 30 " " | 2.00 | 4.00 | 2.00 | 1.90 | 2.00 | 1.80 | 3.00 |
| Masonry: Brick | 120 " " | 4.50 | 5.50 | 5.00 | 5.00 | 4.50 | 6.90 | 5.00 |
| Concrete | 300 " " | 4.00 | 4.50 | 4.00 | 5.00 | 4.50 | 4.00 | 4.50 |
| Laying 8 and 10-in. sewer pipe | 7,890 lin. ft. | .10 | .16 | .10 | .10 | .10 | .15 | .10 |
| 15-in. sewer pipe | 1,050 " " | .10 | .30 | .20 | .10 | .15 | .15 | .15 |
| 20-in. " " | 1,060 " " | .20 | .30 | .25 | .12 | .20 | .20 | .20 |
| Underdrain | 7,500 " " | .20 | .25 | .20 | .20 | .15 | .20 | .25 |
| Chimneys | 400 " " | .10 | .10 | .10 | .10 | .10 | .10 | .05 |
| Block paving around manholes | 50 sq. yds. | .50 | 2.00 | 1.00 | 3.00 | 1.00 | .70 | 2.50 |
| Total | | $15,852 | $15,763 | $15,407 | $14,630 | $14,538 | $13,605 | $13,451 |

**DREDGING AND JETTY.**—Sandusky, O.—Col. Jared A. Smith, U.S.Engr., 185 Euclid Ave., Cleveland, O., informs us that the following bids were received May 15 for dredging channels and for constructing jetty and bar protection of brush and stone, as advertised in Engineering News:

Bids Received at Sandusky, O., May 15, 1899, for Dredging Channels, Etc.

| Bidder. | Dredging. Outer bar, a cu. yd. | Scow measurement. Channel. Straight. | East dock. | West dock. | Boldrs. per hour. |
|---|---|---|---|---|---|
| Carkin, Stickney, & Cram, Detroit, Mich. | $0.26 | $0.12 | $0.30 | $0.80 | $15.00 |
| G. H. Breymann & Bro., Toledo, O. | .22 | .13 | .18 | 1.50 | 25.00 |
| The L. P. & J. A. Smith Co., Cleveland, O. | .25 | .15 | .18 | .90 | 20.00 |
| James Rooney, Toledo, O. | .21 | .14 | .14 | .60 | 15.00 |
| E. J. Pryor, Houghton, Mich. (recommended for acceptance) | .12 | .09 | .09 | .10 | 12.00 |

Jetty and Bar Protection.—The following are the bids for the jetty and bar protection, (1) being for band stone, (2) for rip-rap stone, (3) for brush mattresses, (4) for piles: John Stang, Lorain, O., (1) $1.50 a ton, (2) $1.50 a ton, (3) 59 cts. a sq. yd., (4) $15.00 each; the L. P. & J. A. Smith Co., Cleveland, (1) $2.00, (2) $2.50, (3) $1.50, (4) $18; Patrick Keohane, Fayetteville, N. Y., (1) $1.04, (2) $1.04, (3) 37 cts., (4) $10 (recommended for acceptance); the amount allowed for the jetty and bar protection is $45,000, that for dredging $27,000.

**PAVING.**—Ithaca, N. Y.—The following bids were received May 2, 1899, for furnishing about 25,000 yds. of paving, both brick and stone, and for furnishing about 10,000 ft. of Medina stone curbing; C. C. Platt, Clk. Paving Comn.:

| Bidder. | Excavation, a cu.yd. | Stone pavement, a sq.yd. | Curbing, a lin.ft. |
|---|---|---|---|
| Sullivan & Graham, Columbus, O. | $0.25 | $1.60 | $0.45 |
| Costello & Neagle, Elmira, N. Y. | .30 | 1.64 | .49 |
| *Bartow & Coryell, Williamsport, Pa. | .24 | 1.34 | .43 |
| John Horan, Medina, N. Y. | .40 | 1.70 | .42 |
| Walter Bradley & Co., Oswego, N.Y. | .45 | 1.65 | .48 |
| John Dempsey, Elmira, N. Y. | .48 | 1.64 | .44 |
| F. P. Spaulding, Bethlehem, Pa. | .25 | 1.36 | .45 |
| Brick paving, city to furnish brick: | | Brick. | |
| *F. P. Spaulding, Bethlehem, Pa. | $0.20 | $0.45 | $0.42 |
| Jos. Campbell, Ithaca, N. Y. | .26 | .64 | .45 |
| John Dempsey, Elmira, N. Y. | .24 | .59 | .43 |
| Walter Bradley & Co., Oswego, N.Y. | .27 | .67 | .45 |
| Costello & Neagle, Elmira, N. Y. | .25 | .62 | .45 |
| Bartow & Coryell, Williamsport, Pa. | .24 | .57 | .43 |
| Sullivan & Graham, Columbus, O. | .24 | .60 | .40 |

*Awarded contract.

**BRIDGE.**—Binghamton, N. Y.—The following bids were received May 9 for constructing the sub- and superstructure for a bridge over the Susquehanna River at Tompkins St., as advertised in Engineering News; the masonry for abutments includes coping, iron clamps, and removal of present wall; for piers—iron clamps, etc.:

Bids Received at Binghamton, N. Y., May 9, 1899, for Constructing Sub and Superstructure for a Bridge.

| Items. | Owego Bridge Co., Owego, N. Y. | Elmira Bridge Co., Elmira, N. Y. | Toledo Bridge Co., Toledo, O. | Youngstown Bdg. Co., Youngstown, O. | Brackett Bridge Co., Cincinnati, O. | Pittsburg Bridge Co., Pittsburg, Pa. | Groton Bridge & Mfg. Co., Groton, N. Y. |
|---|---|---|---|---|---|---|---|
| Superstructure, complete | $19,400 | $22,500 | $20,883 | $22,641 | $18,890 | $25,300 | $21,331 |
| Embankment, a cu. yd. | $0.25 | $0.30 | $0.38 | $0.40 | $0.35 | $0.60 | $0.30 |
| Loose stone and brush, a cu. yd. | .50 | 1.25 | 1.10 | 2.50 | 1.00 | 1.50 | 1.50 |
| Concrete, a cu. yd. | 4.25 | .... | 8.60 | 6.00 | 5.00 | 7.00 | 2.50 |
| Masonry in piers, a cu. yd. | 12.50 | 10.00 | 9.85 | 13.00 | 10.50 | 11.00 | 6.00 |
| Masonry in abutments, a cu. yd. | 8.00 | 7.00 | 11.90 | | 14.00 | 11.00 | 9.00 |
| Piles, in work, after sawing off, a lin. ft. | .26 | .... | .46 | .50 | .30 | .45 | .24 |
| Hemlock timber in work, a M ft., B. M. | 22.00 | 21.00 | 18.00 | 20.00 | 25.00 | 22.00 | 17.00 |
| Wrought iron in drift bolts, and spikes, a lb. | .025 | .04 | .05 | .05 | .03 | .03 | .02 |

**PAVING.**—Fort Wayne, Ind.—The following bids were received May 4, 1899, for about 27,000 sq. yds. of paving in five streets: Calhoun St., Jos. Derheimer, Metropolitan block, $1.65 a sq. yd.; C. E. Moellering & Co., any block, $1.45; S. B. Fleming, $1.61; Vulcanite Asphalt Co., Philadelphia, sheet asphalt, $2.29; Barber Asphalt Paving Co., Detroit, $2.23; Alcatraz Construction Co., $2.33; Brackenridge St., width of street to be paved, 24 ft.—Barber Asphalt Paving Co., $6.28 a lin. ft.; Alcatraz Construction Co., $7.58; Vulcanite Paving Co., $7; C. E. Moellering & Co., Metropolitan block, $5.90; Lavina St., width of street, 24 ft.—Barber Asphalt Paving Co., $6.29 a ft.; Alcatraz Construction Co., $7.11; Vulcanite Paving Co., $7.08; C. E. Moellering & Co., brick, $5.60; Jos. W. Derheimer, Metropolitan block, $6.40; Holman St., width of street to be paved, 32 ft.—E. Moellering & Co., brick, $6.65 a lin. ft.; Alcatraz Construction Co., $8.49; Barber Asphalt Paving Co., $7.52; Vulcanite Paving Co., $7.50; S. B. Fleming, Metropolitan block, $7.55; Holman St., width of street to be paved, 26 ft.—C. E. Moellering & Co., brick, $5.70; S. B. Fleming, Metropolitan block, $6.47; Alcatraz Construction Co., $7.16; Barber Asphalt Paving Co., $6.32; Vulcanite Paving Co., $6.81. Creighton Ave., 22 ft. wide.—C. E. Moellering & Co., any block, $1.44 a sq. yd.; Jos. W. Derheimer, Metropolitan block, $1.58 sq. yd.; S. B. Fleming, asphalt block, $3.80 a sq. yd.; Metropolitan block, $1.61; Barber Asphalt Paving Co., sheet asphalt, $1.90; Vulcanite Paving Co., $1.93.

**BRICK PAVING.**—Albany, N. Y.—The following contract was let May 15, 1899, to Edward F. Dillon, Albany, for brick paving and laying sewers in Lexington and New Scotland Aves.: Brick, 8,290 yds., $1.70; curb, straight, 3,230 ft., 50 cts.; curb, circular, 257 ft., 50 cts.; relaying on concrete, 15 yds., $2.50; relaying curb on concrete, 20 ft., 25 cts.; new rib brick sidewalk, 12,600 sq. ft., 10½ cts.; sod, 1,840 yds., 15 cts.; new 5-ft. flags, 7,000 sq. ft., 17 cts.; relaying sidewalk, 3,470 sq. ft., 4 cts.; excavation, 9,180 yds., 25 cts.; lumber, 3.6 ft., B. M., $20; receiving basins, 5, $65; pipe and trenches, 300 ft., 40 cts.; 6-in. bends, 8, 35 cts.; days labor in pounding, 93, $1.50; trees cut down and removed, 19, $15; 24-in. vitrified pipe, 585 ft., $1.89; 27-in. vitrified pipe, 488 ft., $2.40; 24-in. Y-branches, 5, $6; 27-in. Y-branches, 6, $7.50; 10-in. Y-branches, 1, $2.50; manholes, 3, $35; days to complete, at $5, $35. Total, $24,680. Bids were also received from the following: Mulderry Bros., total, $26,922; Frank Pidgeon, total, $32,278. The successful bidder will use Johnsonburg brick and Alpha-Portland cement.

**DREDGING.**—Milwaukee, Wis.—Capt. J. G. Warren, U. S. Engr., informs us that the following bids were received May 17, 1899, for dredging in certain harbors on Lake Michigan, as advertised in Engineering News: Menominee River, Mich. and Wis.—Amount available, $17,000; estimate of amount of dredging, 172,000 cu. yds.: Samuel O. Dixon, Milwaukee, 9 7-10 cts. a cu. yd.; the Lydon & Drews Co., Chicago, 15 cts.; William T. Casgrain, Chicago, 17 cts.; the FitzSimons & Connell Co., Chicago, 13 cts.; E. J. Pryor, Houghton, Mich., 9 cts.; C. E. Mitchell, Ludington, Mich., 14½ cts. Oconto Harbor, Wis.—Amount available, $5,000; estimate of amount of dredging, 20,000 cu. yds.: Samuel O. Dixon, Milwaukee, 12½ cts.; the Lydon & Drews Co., Chicago, 14 cts.; the FitzSimons & Connell Co., Chicago, 12½ cts.; Horatio Truman, Manitowoc, 12¼ cts. Green Bay Harbor, Wis.—Amount available, $20,000; estimate of amount of dredging, 200,000 cu. yds.: Samuel O. Dixon, Milwaukee, 9¼ cts.; C. E. Mitchell, Ludington, Mich., 13 cts.; the FitzSimons & Connell Co., Chicago, 12 cts.; E. J. Pryor, Houghton, Mich., 9 cts.; William T. Casgrain, Chicago, 17 cts.; the Lydon & Drews Co., Chicago, 14 cts. Two Rivers Harbor, Wis.—Amount available, $4,000; estimate of amount of dredging, 23,000 cu. yds.: Samuel O. Dixon, Milwaukee, 14½ cts.; the Lydon & Drews Co., Chicago, 14 cts.; Charles Simon, Two Rivers, Wis., 13¾ cts.; the FitzSimons & Connell Co., Chicago, 14 cts. Milwaukee Harbor, Wis.—Amount available, $14,000; estimate of amount of dredging, 100,000 cu. yds.: Adolph F. Bues, Milwaukee, 14 4-10 cts.; William T. Casgrain, Chicago, 15 cts.; the Lydon & Drews Co., Chicago, 17 cts.; the FitzSimons & Connell Co., Chicago, 18 cts.

**DREDGING.**—Baltimore, Md.—Col. P. C. Hains, U. S. Engr., received the following bids, May 18, 1899, for dredging channel leading to harbor at Baltimore, as advertised in Engineering News; estimated amount of dredging, 10,000,000 cu. yds.: Baltimore Dredging Co., Baltimore, 9 6-10 cts.; Morris & Cummings Dredging Co., New York, 10 1-10 cts.; American Dredging Co., Philadelphia, 9 9-10 cts.; Virginia Dredging Co., Richmond, Va., 10 1-10 cts.; Simon Hess, New York, 8 33-100 cts.; Christie, Lowe & Heyworth, Chicago, 9 2-10 cts.

**BRICK PAVING.**—Detroit, Mich.—Local papers state that Archie Grant submitted the lowest bid, May 11, 1899, at $1.79 a sq. yd., for brick paving in Russell St., from Wilkins St. to Forest Ave., 28 ft. wide; concrete foundation; Medina curbstone; total, $26,587.

DREDGING AND REMOVING ROCK.—Connecticut.—The following bids were received May 18, 1899, by Maj. Smith S. Leach, U. S. Engr., New London, Conn., for dredging and removing rock in various harbors, as advertised in Engineering News; (1) being for dredging in Thames River; (2) Stamford Harbor; (3) Housatonic River, and (4) for removing rock in Mystic River: Jno. P. Randerson, Albany, N. Y., (1) 16 cts. a cu. yd.; Frank H. Brainard, New York, (1) 11 3-10 cts.; Edgar M. Payn, Albany, (1) 17 9-10 cts.; (2) 23 7-10 cts; Hartford Dredging Co., Hartford, (1) 18 cts.; (2) 16 cts.; R. G. Packard Co., New York, (3) 33 cts.; P. J. Brummelkamp, Syracuse, N. Y., (2) 24 cts.; Harries & Letteney, Boston, Mass., (4) $13.60 a cu. yd.; Chas. W. Johnston, Lewis, Del., (4) $11.75; Isaac T. Brown, New York, (4) $12.45; P. Sanford Ross, Jersey City, (4) $17; Frank Pidgeon, New York, (4) $16.63; H. Herbert Sturgis, South Standish, Me., (4) $9.45; Chas. F. Stoll, New London, (4) $8.50; Thos. A. Scott, New London, (4) $8.

TRANSPORTATION.—New York, N. Y.—The following bids were received by the U. S. Army Quartermaster, Army Bldg., Whitehall St., New York, for the transportation of six 12-in. steel mortars from Sandy Hook proving ground to Tybee Island, Ga., each mortar weighing 29,100 lbs.; also seven 12-in. mortars from Sandy Hook proving ground to Fort Caswell, N. C.: Merritt & Chapman Wrecking Co., six mortars, $1,245; seven, $1,465. Richmond & Danville Dispatch, six for 42 cts. a 100 lbs.; seven, 72 cts. a 100 lbs. Seaboard Air Line, six, 42 cts. a 100 lbs.; seven, 70 cts. a 100 lbs. Pensylvania R. R., seven, 51 cts. a 100 lbs.; six, 72 cts. a 100 lbs. Great Southern Dispatch, seven, 51 cts. a 100 lbs.

SEWERS.—Cambridge, O.—O. M. Hoge, Cy. Engr., informs us that the following bids were received May 19 for constructing sewers, as advertised in Engineering News; contract awarded Adams Bros.; F. R. Deselm, Cy. Clk.:

Bids Received at Cambridge, O., May 19, 1899, for Constructing Sewers.

| Quantities. | | Petit & Abele, Zanesville. | Green-ville (O.) Construction Co., Greenville. | John Munger & Co., Dayton. | Adams Bros., Zanesville. | Muir, O'Sullivan & Doran, Port Huron Mich. |
|---|---|---|---|---|---|---|
| 30-in. pipe, furnishing and laying | 522 lin. ft. | $1.40 | $2.50 | $2.12 | $2.10 | $2.07 |
| 24-in. " " " | 792 " " | .60 | 1.10 | .77 | .75 | .88 |
| 18-in. " " " | 2,120 " " | .35 | .64 | .53 | .50 | .44 |
| 15-in. " " " | 1,738 " " | .28 | .59 | .29 | .30 | .31½ |
| 12-in. " " " | 2,360 " " | .22 | .47 | .25 | .24 | .21 |
| 10-in. " " " | 967 " " | .16 | .55 | .24 | .25 | .16 |
| 8-in. " " " | 22,930 " " | .12 | .41 | .23 | .24½ | .12 |
| 6-in. service pipe, furnishing and laying | 17,798 " " | .08 | .17 | .20 | .12 | .09 |
| Excavation and backfilling, under 6 ft. | 2,526 " " | .19 | .20 | .22 | .20 | .18 |
| " " " 6 to 8 ft. | 6,460 " " | .24 | .20 | .28 | .23 | .25 |
| " " " 8 " 10 " | 11,685 " " | .32 | .20 | .40 | .30 | .35 |
| " " " 10 " 12 " | 6,476 " " | .42 | .20 | .50 | .40 | .45 |
| " " " 12 " 14 " | 2,722 " " | .53 | .40 | .60 | .50 | .55 |
| " " " 14 " 16 " | 1,234 " " | .67 | .40 | .75 | .60 | .70 |
| " " " 16 " 18 " | 200 " " | .87 | .40 | 1.25 | 1.00 | .90 |
| " " " 18 " 20 " | 283 " " | 1.20 | .70 | 1.50 | 1.25 | 1.20 |
| " " " 6-in. srvc pipe | 17,798 " " | .22 | .70 | .21 | .20 | .30 |
| Laying 18-in. iron pipe | 72 " " | .50 | 1.00 | .50 | .50 | .28 |
| " 15-in. " | 24 " " | .42 | 1.00 | .40 | .40 | .24 |
| " 12-in. " | 36 " " | .32 | 1.00 | .30 | .30 | .20 |
| " 8-in. " | 132 " " | .35 | 1.00 | .30 | .30 | .14 |
| Furnishing iron pipe | 10 " " | 30.00 | 35.00 | 31.00 | 30.00 | 30.00 |
| Rock excavation | 4,200 cu. yds. | 2.25 | 2.50 | 3.00 | 1.00 | 2.75 |
| Concrete | 445 " " | 5.00 | 3.50 | 6.00 | 5.00 | 5.00 |
| Sanitary manholes | 42 each | 37.50 | 32.00 | 51.00 | 40.00 | 30.00 |
| Flushtanks | 34 " | 55.00 | 65.00 | 60.00 | 50.00 | 50.00 |
| Catchbasins | 40 " | 40.00 | 23.00 | 15.00 | 30.00 | 20.00 |
| Masonry | 12 cu. yds. | 4.00 | 6.00 | 3.50 | 3.00 | 6.00 |
| Storm manholes | 14 each | 37.50 | 40.00 | 51.00 | 40.00 | 35.00 |
| Total | | $40,159 | $56,152 | $51,461 | $38,132 | $44,004 |

FILLING AND DREDGING.—Toledo, O.—We are informed that the following bids were received May 13 by the Toledo Centennial Commission for revetment and filling at Bay View Park, Toledo, preparatory to holding the Ohio Centennial and Northwest Territory Exposition in 1902 and 1903; W. J. Sherman, Engr., The Nasby, Toledo:

Bids Received at Toledo, O., May 13, 1899, for Filling and Dredging at Bay View Park.

| Quantities. | | J. N. Bick and A. Hussey, Toledo & N. Y. | Jos. Gates, Toledo. | John J. Harman, Toledo. | Breyman Bros., Toledo. | James Rooney, Toledo. | Carkin, Stickney & Cram, Detroit. | H. Strong & Son, Cleveland. | Spence Bros., Cleveland. | Rabbit, Garrigan & Spear, Toledo. |
|---|---|---|---|---|---|---|---|---|---|---|
| Bluff grading | 150,000 cu. yds. | $0.15 | $0.20 | $0.27 | $0.26 | $0.27 | $0.30 | $0.30 | $0.27 | $0.24 |
| Dredg. & fill | 780,000 " " | .16⅞ | .28 | .27 | .32 | .32½ | .35 | .40 | .41 | .25 |
| Piles driven: | | | | | | | | | | |
| Oak | 42,000 lin. ft. | .27 | .25 | .29 | .30 | .31 | .30 | .29 | .28 | .29 |
| Elm | 57,000 " " | .19 | .15 | .23 | .22 | .22 | .24 | .22 | .23 | .175 |
| Oak, sheet | 470,000 ft. B.M. | 37.00 | 35.00 | 29.00 | 40.00 | 41.00 | 50.00 | 40.00 | 45.00 | 32.00 |
| Lumber, in place: | | | | | | | | | | |
| White pine | 169,000 " " | 28.50 | 25.00 | 30.00 | 35.00 | 35.50 | 40.00 | 30.00 | 38.00 | 32.00 |
| White oak | 17,000 " " | 30.00 | 30.00 | 30.00 | 45.00 | 47.00 | 40.00 | 45.00 | 40.00 | 35.00 |
| Hemlock | 78,000 " " | 20.00 | 20.00 | 20.00 | 25.00 | 26.00 | 25.00 | 22.00 | 25.00 | 24.00 |
| Parts in place: | | | | | | | | | | |
| Anchor rods | 154,000 lbs. | .03 | .08 | .04 | .08 | .09 | .09 | .08 | .10 | .035 |
| Screw bolts | 10,000 " | .03 | .15 | .05 | .03 | .06 | .04 | .035 | .06 | .041 |
| C.-i. washers | 16,000 " | .03 | .05 | .04 | .03 | .06 | .04 | .035 | .05 | .025 |
| Spikes & nails | 10,500 " | .04 | .08 | .04 | .055 | .06 | .05 | .06 | .065 | .038 |
| Drift bolts | 3,000 " | .03 | .10 | .04 | .04 | .04 | .035 | .05 | .05 | .036 |
| Total | | $206,482 | $305,955 | $305,000 | $355,218 | $361,887 | $393,100 | $422,311 | $433,005 | $282,772 |

BRICK SEWER.—Omaha, Neb.—Katz & Crandall have offered to build a 10×8½ ft. brick sewer, from 33d to Boyd Sts., for $11.60 a ft., and an 8×6¾-ft. sewer from 31st to Pinkney St., for $7.90 a ft.; estimated cost, $40,000.

WATER PIPE, HYDRANTS, ETC.—Pittsburg, Pa.—The following bids were received in March for furnishing cast-iron water pipe, hydrants, pig lead, etc.: National Foundry & Pipe Works, Scottdale, Pa.; 4, 6 and 8-in. cast-iron pipe, $22.20 a ton of 2000 lbs.; 10 to 48-in., $21.20 a ton of 2,000 lbs. Bailey-Farrell Mfg. Co., Pittsburg, pig lead, $4.70 a 100 lbs.. Michigan Brass & Iron Works, Detroit, Mich., fire hydrants, $20.93 for 5¾-in.; $40.00 for 8-in. Ludlow Valve Mfg. Co., Troy, N. Y., fire hydrants, $19.95 for 5¾-in.; $38.95 for 8-in.

DREDGING.—Huntington Harbor, N. Y.—The following bids were received by the U. S. Engineer, May 15, 1899, for dredging in Huntington Harbor: Du Bois Bros. Dredging Co., 19 Whitehall St., New York, 13 9-10 cts. a cu. yd.; Hartford Dredging Co., Hartford, Conn., 21 cts.; International Contracting Co., Syracuse, N. Y., 14½ cts.

LAYING WATER PIPE.—Poughkeepsie, N. Y.—The following contract was let May 16, 1899, to Patrick Brophy for laying water pipe and setting hydrants: Patrick Brophy—Excavating rock a cu. yd., 50 cts.; laying 6-in. cast-iron pipe, 30 cts.; laying 4-in. pipe, 28 cts.; setting hydrants, 75 cts.; setting valves, 80 cts.; total, $1,038.

DREDGING.—Cinnecticut.—The following bids were received May 10, 1899, for dredging in various places of Connecticut; (1) being for Five Mile River, (2) for Norwalk Harbor, (3) for Pawcatuck River, (4) for Connecticut River: Hartford Dredging Co., (1) 18 cts., (2) 20 cts., (3) 30 cts., (4) 10 cts.; Newburg Dredging Co., Newburg, N. Y., (1) 19 cts., (2) 19 cts., (4) 10¼ cts.; J. P. Randerson, 62 Quay St., Albany, N. Y., (1) 20 cts., (2) 24½ cts., (3) 34 cts., (4) 9⅞ cts.

PAVING.—Michigan City, Ind.—The following contracts have been let for brick paving, to cost a total of about $100,000; C. H. Defrees, South Bend, Ind.—Curbing Franklin St. with Indiana limestone, 33 cts. a lin. ft.; cementing, 18 cts. a ft.; Metropolitan wire-cut paving block, $1.38½ a sq. yd.; grading, 18 cts. a cu. yd.; curbing South Spring and York Sts., with Indiana limestone, 29 cts.; Metropolitan wire-cut paving block, $1.18; grading, 18 cts.. R. F. Conway & Co.—Spring, Pine and Wabash Sts., combined curb and gutter, 45 cts. a lin. ft.; asphalt paving, $1.45 a sq. yd.; guarantee, five years; grading, 20 cts.

CAST-IRON AND LEAD PIPE.—Montreal, Que.—The following contracts were let by the water committee May 16, 1899, for furnishing cast-iron water pipe and lead pipe: Iron pipe—Montreal Pipe Co., $29.50 a ton for 12, 8, 6 and 4-in. pipe. The quantities needed are 30 tons of 12-in., 122 tons of 8-in., 7 tons of 6-in., and 6 tons of 4-in. pipe. Lead pipe—Montreal Rolling Mills, 25 tons at $4.72 a 100 lbs.; Thomas Robertson, 45 tons at $4.70.

RAISING BRIDGE.—Washington, D. C.—The following bids were received May 6, 1899, for raising superstructure of iron highway bridge crossing the Klingle Fort Road and for 340 cu. yds. of new masonry: Albert Weber, 45 Builders Exchange, Baltimore, $2,875, raising superstructure; $29.50 a cu. yd. for masonry. McGuire & Hall, 26 Cortlandt St., New York, $3,636; $14.00.

SEWERAGE SYSTEM.—Auburn, Ind.—J. J. Van Auken, Cy.Engr., informs us that the following bids were received May 17 for constructing a system, as advertised in Engineering News; the award may not be made to lowest bidder; there were 16 other bidders with prices ranging from $37,000 to $51,000:

Bids Received at Auburn, Ind., May 17, 1899, for Constructing a Sewerage System.

| Quantities. | | G. H. Bodette, Toledo, O. | Joseph Derheimer, Ft. Wayne, Ind. | Wagner Water Supply Co., Dayton, O. | Victor M. Backus, Indianapolis, Ind. | Latta Bros. & Co., Goshen, Ind. | E. Woods, & Co., Decatur, Ind. |
|---|---|---|---|---|---|---|---|
| Brick sewer: 36-in., 1-ring, 8 ft. deep | 600 lin. ft. | $696 | $810 | $1,440 | $792 | $1,788 | $1,026 |
| 30-in., 1-ring, 4 ft. deep | 500 " " | 392 | 490 | 700 | 535 | 970 | 640 |
| 27-in., 1-ring, 4 ft. deep | 500 " " | 370 | 420 | 485 | 525 | 755 | 550 |
| 24-in., 1-ring, 4 ft. deep | 3,000 " " | 1,950 | 2,250 | 2,160 | 2,640 | 2,550 | 2,400 |
| 20-in. pipe sewer, 14 ft. cut | 400 " " | 424 | 480 | 528 | 496 | 420 | 432 |
| 18-in. " " 12 " " | 13,000 " " | 9,880 | 10,270 | 11,960 | 10,400 | 11,700 | 11,050 |
| 15-in. " " 10 " " | 5,500 " " | 2,860 | 2,915 | 3,190 | 3,300 | 3,135 | 3,740 |
| 12-in. " " 8 " " | 15,000 " " | 5,550 | 5,550 | 5,100 | 6,150 | 5,850 | 7,500 |
| 10-in. " " 8 " " | 2,500 " " | 800 | 825 | 763 | 925 | 800 | 1,100 |
| 8-in. " " 8 " " | 9,000 " " | 2,520 | 2,678 | 2,160 | 2,880 | 2,340 | 3,400 |
| 6-in. " " 6 " " | 5,000 " " | 850 | 750 | 650 | 1,300 | 800 | 1,300 |
| 4-in. " " 4 " " | 1,000 " " | 120 | 80 | 90 | 250 | 80 | 100 |
| Brick manholes, 3 ft. round × 10 ft. deep | 75 | 1,530 | 960 | 1,875 | 1,500 | 1,594 | 1,125 |
| Catchbasins, 50 each of 12, 15, 18, 20, 24-in. | 250 | 832 | 716 | 760 | 900 | 703 | 909 |
| 8-in. lampholes, 8 ft. deep | 50 | 46 | 48 | 60 | 80 | 48 | 44 |
| Stone wall | 15 perches | 75 | 75 | 45 | 45 | 41 | 30 |
| Sewer castings | 15 tons | 600 | 450 | 495 | 450 | 525 | 600 |
| Extra cost for 18-in. pipe specials | 260 | 234 | 286 | 188 | 385 | 190 | 114 |
| 15-in. pipe specials | 110 | 73 | 86 | 59 | 119 | 61 | 36 |
| 12-in. " " | 300 | 135 | 177 | 109 | 225 | 111 | 75 |
| 10-in. (50), and 8-in. (180) pipe specials | 230 | 61 | 72 | 49 | 99 | 50 | 31 |
| Total | | $29,979 | $30,388 | $32,864 | $33,995 | $34,511 | $36,222 |

DAM AND POWER-HOUSE FOUNDATIONS.—Richmond, Va.—The following bids were received May 16 for building the dam, canal and power-house foundations for the Virginia Electrical Ry. & Development Co., as advertised in Engineering News; R. L. Williams, Pres. James River Construction Co.; contract awarded Winston & Co.:

Bids Received at Richmond, Va., May 16, 1899, for Building Dam and Power-House Foundations.

| Bidder. | Cofferdam work | | | Excavation | | Cem. con. mas'ry | | | Floor surfacing, Portld cem., 850 sq.yds. | Iron work, complete, 3,000 lbs. | Total. | Total Without A or B. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Enlargement of canal. | (A) River dams. | (B) Tail race. | Earth, 40,000 cu.yds. | Rock, 40,000 c.yds. | Portland, first-class, 10,000 c.yds. | Natural, second-class, 6,000 c.yds. | Natural, third-class, 4,000 c.yds. | | | | |
| Winston & Co., Chicago, Ill. | $3,000 | $1,500 | $2,500 | $0.26 | $0.69 | $4.85 | $3.65 | $3.25 | $0.50 | $0.035 | $128,930 | $124,930 |
| W. Bradley & Co., Oswego, N.Y. | 2,800 | 1,748 | 2,748 | .28 | .96 | 5.11 | 3.45 | 3.34 | 1.00 | .03 | 142,996 | 138,500 |
| Warren-Scharf Co., New York | 2,411 | 6,785 | 2,600 | .23 | .88 | 6.56 | 3.43 | 2.64 | .40 | .035 | 153,381 | 143,996 |
| J. M. Douglas & Co., Baltimore | 6,753 | 6,960 | 7,200 | .25 | .85 | 6.34 | 4.41 | 3.41 | .75 | .10 | 169,351 | 155,191 |
| Travers, Ellerson, Meyers, Jr. | 2,000 | 14,875 | 8,100 | .35 | .99 | 6.48 | 4.86 | 4.61 | .20 | .03 | 191,235 | 168,260 |
| Lane Bros. & Co., Esmont, Va. | 4,400 | 8,990 | 7,822 | .40 | 1.20 | 7.25 | 4.95 | 4.10 | ... | .04 | 203,932 | 187,120 |
| Engineering Con. Co., N. Y. | 11,500 | 18,000 | 16,000 | .50 | 1.18 | 7.00 | 4.25 | 3.40 | 1.00 | .05 | 222,800 | 188,800 |
| Gooch, Rhinehart & Dennis | 12,000 | 10.000 | 8.000 | .50 | 1.60 | 6.40 | 6.30 | 4.00 | 1.00 | .05 | 232,800 | 214,800 |

PAVING BLOCKS.—Victoria, B. C.—The following bids have been received by the council for furnishing paving blocks: A. Sayward, 3 × 6 × 5, $9.38 a thousand; 3 × 7 × 5, $10.95; 3×6×6, $11.25; 3 × 6 × 7. $13.13 (accepted); Shawnigan Lake Lumber Co., 3 × 6 × 5, $10; 3 × 6 × 6, $12; 3 × 7 × 5, $11.75; 3 × 6 × 7, $13.75. Taylor Mill Co., 3 × 6 × 5, $9.50; 3 × 6 × 6, $11.30; 3 × 7 × 5, $11; 3 × 6 × 7, $13.25.

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## INDUSTRIAL NOTES.

T. W. KINSER & SONS, general contractors, have been awarded the contract for connecting a feeder line for the Hennepin Canal, which will include about 1,000,000 cu. yds. of excavation, and have removed their plant from the work they have just completed on the Cambridge, Mass., water basin, a contract amounting to $400,000 or over. Mr. T. W. Kinser, Mgr., states that their address for the coming year will be Tampico, Ill.

THE BERLIN IRON BRIDGE CO., East Berlin, Conn., has secured the contract from La Capital Tramway Co., Buenos Ayres, Argentina, for a steel water tower, supporting a tank having a capacity of 7,000 gallons. This is the fifth order the Berlin Iron Bridge Co. has received from this company.——The stone quarries at Portland, Conn., are very busy. The owners are cleaning out their old wooden derricks and replacing them with steel. They have placed the order with the Berlin Iron Bridge Co. for masts and spars.

BEMENT, MILES & CO., Philadelphia, are said to have shipped to Dick, Kerr & Co., 110 Cannon St., E. C., London, England, four large horizontal boring machines. The order, which is valued at $15,000, was placed by a representative of the concern while on a visit to this country last month. A gun lathe, capable of turning and boring 12-in. guns, has just been ordered by the Australian government. The lathe is worth nearly $40,000. Big lots of machine shop tools are being shipped to Schuchart & Schoette, Berlin, Germany.

THE F. D. CUMMER & SON CO., Cleveland, O., informs us that it is furnishing many of its Style F. dryers to manufacturers of cement for the purpose of drying pulverized coal. Rotary kilns are being used to such a large extent by Portland cement companies, and the price of crude oil has advanced so much lately, that pulverized coal is being substituted by many of the largest cement companies. The company's direct heat tunnel dryer is also being used for drying the briquettes of the mixed materials before their burning in the kiln.

THE WESTERN CAMERA MFG. CO., 135 Wabash Ave., Chicago, has leased a large four-story building, 50 × 220 ft., corner 27th St. and Stewart Ave., Chicago, to be used as an additional factory, and are now renovating it and installing new machinery. It also has a large factory at 39 West Randolph St., with main offices and salesrooms at 135 Wabash Ave. Mr. H. D. Haight, Secy. and Treas., recently advised our representative that it manufactured and sold over 60,000 cameras in 1898, and that its output this year will be over 150,000 instruments.

THE BROOKS LOCOMOTIVE WORKS, Dunkirk, N. Y., has shipped five locomotives to Finland, three consolidation freight and two mogul passenger engines. The engines are to be used on the Lovisa-Wesijarvi R. R. One of their traveling engineers, E. C. Clifford, is on his way to Finland to superintend the erecting of the engines when they reach their destination.

WARNER & SWASEY, Cleveland, O., will soon ship machinists' tools to Gebruder Sulzer, Winterthur, Switzerland, according to reports.

THE INDIANA BICYCLE CO., Indianapolis, is making a shipment to Europe of Weverly motor vehicles. Shipment has also been made to Buenos Ayres.

THE READING IRON CO., Reading, Pa., has started the fires in the new 9th St. mill, putting 14 puddling furnaces to work, and giving employment to about 250 men.

THE CORLISS ENGINE CO., Providence, R. I., a part of the International Power Co.'s property, is reported to have received an order to build a large stationary engine for the Boston Elevated R. R.

THE MARYLAND STEEL CO., Sparrows Point, Md., shipped on May 18 250 tons of steel rails for the Victoria R. R. Reports state that the company has a contract to furnish this railway with about 35,000 tons of rails.

JOHN A. BRASHEAR, Allegheny, Pa., is reported to have received a contract from the Turkish government for furnishing 110 range-finders. This style of range-find is said to be the same as that used by the United States government.

THE PECKHAM MOTOR TRUCK & WHEEL CO., Kingston, N. Y., is reported as preparing for shipment to England, 450 motor trucks, which will be used on electric tramways, now under construction in various parts of that country.

THE AMERICAN STEEL HOOP CO., Pittsburg, is reported to have placed an order with the National, Federal and Carnegie Steel companies for 100,000 tons of steel at $25 a ton for the last half of the year; billets have been selling at $26.50 and $27.

THE CUMBERLAND STEEL & TIN PLATE CO., Cumberland, Md., is reported to have been awarded the contract by the United States Government for furnishing 100 10-in., 100 12-in. and 1,100 13-in. projectiles. All are to be completed in two years.

THE CINCINNATI CORRUGATING CO., Piqua, O., has received a contract from the government amounting to $57,554 for iron building material, hardware and plumbing supplies for the erection of barracks and officers' quarters at Matanzas and Havana, Cuba.

THE BALL & WOOD ENGINE CO., 120 Liberty St., New York, is stated to have recently shipped two out of the five 200-HP. compound engines which were ordered for the power plants of the Dublin Street Railway. The value of the contract when completed will be $17,500.

THE BALDWINSVILLE CENTRIFUGAL PUMP WORKS, Syracuse, N. Y., is reported as running its factory overtime in order to fill the orders which are being booked. The company will soon make a shipment of two pumps to the American Steel Barge Co., at West Superior, Wis. The capacity of these pumps is 3,000,000 gallons an hour.

THE ROCKFORD MANUFACTURING CO., Indianapolis, Ind., is reported to have shipped 120 pulleys to J. L. Roberts, Valparaiso, Chili. This order was received through Wm. E. Peck & Co.,Last month's shipments included 24 large sawing machines, worth $21,200. These were forwarded to Dawson City, B. C., through Causton & Co., of Portland, Ore.; others were to Manila, the order for which was sent in by Henshaw, Bulkley & Co., of San Francisco. A number also went to Stockholm, Sweden, through James Leffel & Co., of New York.

THE WEBSTER MFG. CO., Chicago, is said to have secured the British government award for the grain conveying, elevating and power transmitting machinery, including eight engines of 250 HP. each, which will be used on the Inter-Colonial Ry., at Halifax, Nova Scotia. The contract is said to amount to $63,000. This company has recently shipped twelve 4-HP. gasoline engines to Calcutta, India; six engines of 2½ HP. each to Paris, France; four of 2½ HP. and the same number of 6½ HP. engines to Stockholm, Sweden; sixteen from 2½ to 20 HP. to Adelaide, Australia, and six 5-HP. gasoline engines to Copenhagen, Denmark.

THE H. K. PORTER CO., of Pittsburg, Pa., is the successor of the well-known firm of H. K. Porter & Co., manufacturers of light locomotives. The company writes us that it is now constructing a new erecting shop 160×86 ft., which will be equipped with two 25-ton electric traveling cranes. It is also doubling the electric plant and installing an additional Westinghouse gas engine of 125-HP. and a General Electric dynamo. The officers of the new company are as follows: President, H. K. Porter; Vice-Pres., W. E. Lincoln; Secretary, C. L. McHenry; Treasurer, W. E. Martin; General Manager and Superintendent, E. P. Lord; Purchasing Agent, D. E. Ferguson.

THE KENWOOD BRIDGE CO., 417 First National Bank Bldg., Chicago, has just completed an extension and enlargement to its plant; the new building is 80 ft. × 120 ft., making its present main building 250 × 80 ft. It has also put in a large amount of new machinery, including large punches, riveters, etc. It advises our representative that it is very busy at present, and that among other contracts are: A large warehouse for the Deering Harvester Co., to be located at Moline, Ill.; all of the new buildings for the Union Malleable Iron Co., at East Moline, Ill., which includes about 750 tons; an amount of miscellaneous small work, including a highway bridge for Winnetka, Ill. Pres., F. W. Barker; Secy. and Engr., Paul Willis.

THE STILWELL-BIERCE & SMITH-VAILE CO., Dayton, O., has established a branch office for St. Louis and its contiguous territory in Room 601, Burlington Bldg., and has placed the same in charge of a competent engineer. The company will carry at this branch a full line of standard size steam pumps and automatic feed pumps and receivers, air compressors and heaters. The company has issued a series of special catalogues, covering air compressors, single and multiple stage; boiler feed pumps, single and duplex; mine pumps, simple, compound and triple expansion; power pumps, triplex and duplex; condensing apparatus, jet and surface; heaters and purifiers for exhaust and live steam; filter presses; oil mill machinery; Victor turbine water wheels, and Victor ice and refrigerating machinery. It will furnish, upon application, special catalogue, illustrating these lines of machinery; also quotations, drawings and full specifications.

THE AMERICAN RAILWAY EQUIPMENT CO. has been formed in Chicago, with a capital stock of $22,000,000, of which amount $10,000,000 is preferred stock. The following are the companies which will enter the combine: Chicago-Cleveland Car Roofing Co.; C. B. Hutchins & Sons, Detroit; P. H. Murphy Mfg. Co., St. Louis; Shickless, Harrison & Howard Iron Co., St. Louis; Sargent Co., Chicago; American Brake Beam Co., Chicago; Chicago Railway Equipment Co.; Kewanee Mfg. Co., Jersey City; Steelingsworth Railway Supply Co., Easton, Pa.; Monarch Brake Beam Co., Detroit; National Railway Specialty Co., Chicago; McCord & Co., Chicago; McGuire Mfg. Co., Chicago; Simplex Railway Appliance Co., Chicago; Commonsense Bolster Co., Chicago; Standard Truck Co., Chicago; Cloud Steel Truck Co., Chicago; The Q. & C. Co., Chicago. The following board of directors has been chosen: J. E. French, New York; Henry B. Laughlin, Chicago; Willard A. Smith, Chicago; Geo. B. Leighton, St. Louis; Jas. H. Berry, Detroit; Chas. H. Hutchins, Detroit; W. V. Kelly, Chicago; Chas. F. Quincy, Chicago; Wm. J. Cook, Chicago; E. B. Leigh, Chicago. Final organization, including the election of officers, will be completed before June 1.

THE PRESSED STEEL CAR CO., Pittsburg, Pa., and Joliet, Ill., is to enlarge its plant at Joliet. A large tract of land has been purchased, and the old Fox plant, now the western plant of the Pressed Steel Car Co., is to be enlarged to at least three times its present capacity. Ground has already been broken, and the work will be pushed with vigor. When completed, the plant will have a capacity of 30 pressed steel cars a day, in addition to a proportionate increase in the capacity for trucks, bolsters and other pressed steel parts. The total investment will aggregate $500,000, and about 1,600 skilled workmen will be added to the force. With the Joliet plant complete, the capacity of the various works of the company will be something in excess of 100 pressed steel cars a day. The growth of the company is of interest. Within two years in Pittsburg alone, the company has added 4,000 men to its force, and its pay-roll has increased thousands of dollars weekly. The new plant at McKee's Rocks, Pittsburg, which alone will double the capacity of the Pittsburg plants, called for an investment of over $1,000,000. This plant will be in operation in July, and will have a capacity of 40 pressed steel cars, in addition to a large bolster and truck capacity. The Joliet plant will in no way interfere with the importance of Pittsburg's interest, it being designed to take care of a share of the western demand, which has increased so rapidly that the company has found difficulty in caring for it. Since the first pressed steel car was built, orders filled and unfilled aggregate about 15,000 acres.

### WATER-WORKS APPLIANCES.

The following exhibits were made by the firms named at the nineteenth annual convention of the American Water-Works Association, held at the Great Southern Hotel, Columbus, O., May 16, 17, 18 and 19:

THOS. WATKINS, Johnstown, Pa., exhibited his patent pipe jointers.

R. D. WOOD & CO., Philadelphia, showed the Mathews improved fire hydrant and gate valves.

THE NATIONAL METER CO., New York, exhibited its Crown, Nash, Gem and Empire water meters.

THE NEPTUNE METER CO., 253 Broadway, New York, exhibited various sizes of Trident meters, one being a 6-in. meter.

THE LEAD-LINED IRON PIPE CO., Wakefield, Mass., showed specimens of its lead-lined iron pipe and pipe fittings.

THE PAYNE TAPPING MACHINE CO., Fostoria, O., showed its tapping machine and the new Eclipse corporation cocks, fish stops, etc.

THE UNION WATER METER CO., Worcester, Mass., had an interesting exhibit of Columbia and Rotary water meters and pressure regulators.

THE FISHER GOVERNOR CO., Marshalltown, Ia., represented by Mr. Geo. R. Estabrook, Secy. and Gen. Mgr., exhibited its steam pump governor.

THE THOMSON METER CO., New York, represented by Mr. Henry C. Folger, Secy., exhibited the Lambert water meters in sizes of ⅝-in. to 2 ins.

THE HERSEY MFG. CO., Boston, Mass., showed its disc and rotary water meters in various sizes. Mr. J. A. Tilden, Mgr., represented the company.

THE HYDE FOUNTAIN CO., Rochester, N. Y., had on exhibition the Hyde sanitary drinking fountain which dispenses with a cup and substitutes a jet of water.

THE A. P. SMITH MFG. CO., Newark, N. J., represented by Mr. Anthony P. Smith, Pres., showed a collection of its lead furnaces for pipe work, the Smith tapping machine and gate valves.

THE EDDY VALVE CO., Waterford, N. Y., showed the Eddy hydrant and also water valves, check valves and sluice gates. The company was represented by Mr. H. C. Rogers, Vice-Pres.

THE COLUMBUS BRASS CO., Columbus, O., had on exhibition the Wilkins universal water lift and a line of bathroom fixtures, faucets, stop and waste cocks, and water, gas and plumbers' supplies.

THE WASHINGTON-GOODWIN METER CO., 1 Broadway, New York, represented by Messrs. Wm. D'H. Washington and Frank C. Goodwin, of the company, showed its adjustable cam water meters.

THE PITTSBURG METER CO., East Pittsburg, Pa., was represented by Mr. A. G. Holmes, Secy., and showed disc meters of various sizes, including one 6-in. and also the Westinghouse special fish trap.

THE WATERHOUSE-FORBES CO., 220 South Fifth St., Philadelphia, showed its water sterilizers made in two forms, one intended to be attached permanently to the plumbing of a house and the other portable.

THE ROSS VALVE CO., Troy, N. Y., exhibited the Ross water engine for blowing church engines, filter gages, feed-water filters and valves of various kinds, including reducing and regulating valves. Mr. Wm. Ross, Secy., represented the company.

THE H. MUELLER MFG. CO., Decatur, Ill., represented by Messrs. H. Mueller, Sr., Fred. B. Mueller and Adolph Mueller, of the company, exhibited its tapping machines in various sizes, and also showed a full line of stop and waste cocks, corporation cocks, branches, etc.

HENRY R. WORTHINGTON, 120 Liberty St., New York, had two exhibits, one of the meter department, where was shown a collection of standard water, oil and hot-water meters and the Worthington test meter. The other exhibit was of the engine department in which the company showed a number of photographs of recently built water-works pumping engines. Mr. L. B. Hoyt, Mgr. of the Cleveland office, represented the latter department.

NEW COMPANIES.—Equitable Telephone Co., Shenandoah, Pa.; S. G. M. Hollopeter, Patrick Cowry, E. W. Shoemaker.

Pneumatic Fire Alarm Co., Jersey City, N. J.; $1,000,000; Albert Goldstein, Max Radt, Jersey City; Bernard Ewing, Newark, N. J.

Seattle Brass & Bell Foundry Co., Seattle, Mich.; $3,000; to manufacture brass goods for water, gas and steam works; H. Lutsch, M. W. Ryan, George G. Thayer.

Erie Construction Co., Jersey City, N. J.; $100,000; general construction business; W. B. Strong, Jr.; Chas. E. N. Coles, Chas. N. King.

Ransome Concrete Co., Bayonne, N. J.; $250,000; roads, bridges, reservoirs, etc.; T. Foster Gaines, Herman De Selding, John F. Lee, all of New York.

Lang Radial Valve Gear Co., St. Paul, Minn.; $25,000; L. A. Lang, Yule, N. D.; E. F. Walsh, Joseph W. Bethinger, St. Paul.

Warren Portland Cement Co., Phillipsburg, N. J.; $200,000; Wallace L. Hubbs, Chas. B. Brady.

Boston & Seven Devils Copper Co., Trenton, N. J.; $5,000,000; to mine smelt and deal in copper and other metals; Gurden E. Howe, Eric E. Knudsen, John Murray, all of Jersey City.

Sauk Center Telephone Co., Sauk Center, Minn.; $10,000; F. W. Sprague, W. A. Barto, W. O. P. Hilsdale.

Central Bridge Co., St. Louis, Mo.; $10,000; R. H. Phillips, A. L. McRae, M. G. Shults.

Meyer Enameling Co., St. Louis, Mo.; $10,000; Fred. J. Meyer, George B. Borgelt, Henry Broeker.

Portland Telephone Co., Brockton, N. Y.; $15,000; S. Fred Nixon, V. A. Kent, Westfield; Geo. H. Frost, Buffalo.

Forged Steel Joint Co., New York; $100,000; Herbert R. Keithley, Murry Carrington, New York.

Platte Purchase Telephone Co., Edgerton, Mo.; $15,000; J. F. Boydston, H. H. Boydston, Holland Boydston.

Mayville Telephone Co., Mayville, N. Y.; $15,000; S. Fred Nixon, C. J. Banner, Westfield, N. Y.; A. T. Baldwin, Mayville.

General Power Co., Jersey City, N. J.; $500,000; to manufacture and deal in motors and engines; Kenneth K. McLaren, Harry W. Meen, Geo. W. Mark.

Superior Shipbuilding Co., Superior, Wis.; $1,000,000; to build shipyards, shops and docks; A. C. Dustin, H. A. Kelly, H. H. McKeehan, all of Cleveland.

Columbia Automobile Co., Trenton, N. J.; $3,000,000; Elliott Mason, Louis R. Moore, F. R. Foraker, New York.

Sutherland Construction Co., Jersey City, N. J.; $1,000,000; to construct public works; Ulysses S. Grant, New York; William Mainland, Oshkosh, Wis.; Alexander M. Sutherland, East Orange, N. J.

National Machine & Tool Co., Portland, Me.; $50,000, commencing with $400; Jas. H. Reed, Brookline, Mass.

Wyoming County Telephone Co., Castile, N. Y.; $2,000; Miles A. Hopkins, D. E. Van Arsdale, S. B. Windsor.

R. W. Morrison Construction Co., St. Louis, Mo.; $5,000; R. W. Morrison, Ella V. Morrison, P. G. Johnston.

U. S. Safety Gas Cock Co., Providence, R. I.; $100,000; gas and water fixtures; Geo. E. Palmer, Cranston, R. I.; Daniel J. McOsker, Owen F. Garvey, Providence.

Southern Car & Foundry Co.; $750,000; Casper H. Eicks, Chas. L. E. Degange, F. W. Sullivan, New York.

Allentown Iron Works, Allentown, Pa.; $30,000, commencing with $3,000; J. A. Rawlins, New York; Wm. S. Pilling; T. I. Crane, Philadelphia, Pa.

Mohawk River Telegraph & Telephone Co., Albany, N. Y.; $21,000; to operate a telephone and telegraph system from Syracuse to Albany; Russel R. Stuart, Syracuse; William Mason, Binghamton; James J. Dwyer, Utica.

Consumers' Hygiene Ice Co., of Brooklyn, N.Y.; $1,000,000, commencing with $100,000; Geo. A. Curry, Alfred S. Miles, Henry W. Rozell, Fred'k Leuchter, all of Brooklyn.

Chicago Electrical Vehicle Co., Springfield, Ill.; $2,000,000; Edw. Brewster, Samuel Insull, William G. Beale.

Automobile Co. of America, Augusta, Me.; $5,000,000; to manufacure and sell transporting vehicles; Abraham S. Goldsber, Paul N. Turner, all of New York.

Chinook-Cleveland Telephone Co., Helena, Mont.; $2,000; Chas. F. Hopkins, Louis V. Bogy, Chinook; Frank D. Parker, Cleveland.

Bickford Drill & Tool Co., Cincinnati, O.; $100,000; H. M. Norris, A. G. Wilson, L. R. Keck.

Columbia Electrical Supply Co., New York; $500,000; Peter C. McPherson, Wm. H. White, Jr.,New York; Henry W. Barkley, Montclair, N. J.; Philip T. Stillman, Elizabeth, N. J.

Arizona Eastern & Montana Smelting, Ore-Purchasing & Developing Co., Charleston, W. Va.; $5,000,000; Henry B. Clifford, Warren Hussey, W. Milton Public, Edward Jordan, all of New York.

Waterbury Telephone Co., Waterbury, Conn.; $25,000; F. A. Stratton, New York; W. G. Bushnell, New Haven.

Crown Tool Steel Co., Jersey City, N. J.; $150,000; to build vessels, ships, boats, etc.; Wm. L. Rushton, Henry B. Chapman, Eugene B. Fitler.

Automatic Air-Brake Appliance Co., Jersey City, N. J.; $100,000; to manufacture air-brakes, railroad supplies, etc.; Nicholas J. Jeffries, Burrow C. Godfrey.

U. S. Sand Filtration Co., Jersey City, N. J.; $500,000; W. A. Kyte, 32 Humboldt St., Newark; Paul Sheldon, Wilson J. Uberroth, Jersey City.

Empire Construction Co., Newark, N. J.; $50,000, commencing with $5,000; to construct public works, etc.; William P. Catlin, New York; Geo. B. Dresher, Jersey City; Thos, T. Hill, Brooklyn.

Woods Motor Vehicle Co., East Orange, N. J.; $10,000,000; to manufacture and deal in all kinds of wagons, automobiles, cars, etc.; Benj. V. Becker, Geo. W. Mark.

William Skinner & Sons Shipbuilding & Dry-Dock Co., Baltimore, Md.; $300,000; Henry Williams, Decatur H. Miller, Jr., Robert Ramsay, Geo. R. Heffner.

Bethlehem Steel Co., Philadelphia, Pa.; $5,000; to manufacture iron or steel, or both; Joseph Wharton, Milestown; Elisha P. Wilbur; Robert H. Sayre and Robert P. Linderman, South Bethlehem.

Hamburg Telephone Co., Hamburg, N. Y.; $10,000; to conduct a system between Hamburg, Buffalo and the towns of Erie county; Jacob Peffer, John Schoepflin, William Kronenberg, N. C. Fish, H. D. Pierce.

Diamond Bolt & Screw Co., Cleveland, O.; $25,000; bolts and screws; Isaac Lewis, Robert Lindmueller.

Zanesville Telephone & Telegraph Co., Zanesville, O.; $10,000; M. Winn, J. B. Rhodes, G. H. Southard.

Electric Machinery Co., Chicago, Ill.; $5,000; to manufacture electric machinery; G. H. Oehlert, R. R. Lane.

American Railways Co., Trenton, N. J.; $25,000,000; to acquire either by purchase, construction or lease the operating, consolidating and financiering of street car lines in the United States; Pres., A. A. McLeod; Treas., William F. Harrity; Secy., C. L. S. Quigley.

Richwood Telephone Co., Richwood, O.; $10,000; C. D. Juvinall, N. E. Liggett, George W. Warden, M. C. Wolgant and Edward A. Schambs.

Federal Car Truck & Motor Co., 76 Montgomery St., Jersey City, N. J.; $300,000; to manufacture motor cars, wagons, trucks, etc.; John H. Carnes, Joseph Wells, Jas. F. Fielder, all of 70 Montgomery St., Jersey City.

Evansville Contracting Co., Evansville, Ind.; $100,000; to dredge the Ohio River; Jacob Eichel, Jacob Arnold.

Bay State Machine Co., Portland, Me.; $110,000; to manufacture and sell machinery; Pres., John F. Ross, Boston, Mass.; Treas., Frank H. Bates, Boston, Mass.

## Mail Delivery Notice.

Special efforts are made to deliver our paper to its readers each week at the earliest possible moment. The largest binding and mailing establishment in New York begins work on Engineering News early each Wednesday evening, and all papers for Boston, Philadelphia and Washington are usually in the New York post-office by midnight; all Brooklyn and New York city papers by 3 o'clock—in ample time for the first delivery Thursday morning. The entire edition, including foreign copies, is in the mail soon after 6 o'clock Thursday morning. If your paper is not received promptly we advise that you make a complaint to your local post-office officials.

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